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SOUND & VISION

**BASE
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BECAUSE IT SOUNDS GOOD!: Why We Really Like The Marantz SR5009 A/V Receiver



ALL-STAR UPGRADE

HOW A BIG THEATER MAKEOVER PUT YANKEE
CLOSER **MARIANO RIVERA** BACK IN THE GAME

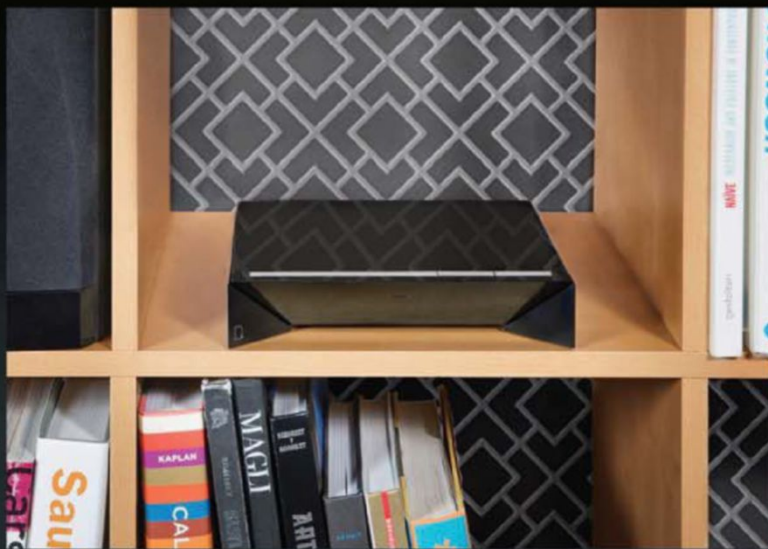


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ON THE COVER All-Star Upgrade: How a big theater makeover put Yankee closer Mariano Rivera back in the game. Gear from Denon, Marantz, and Panasonic.



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All-Star Upgrade

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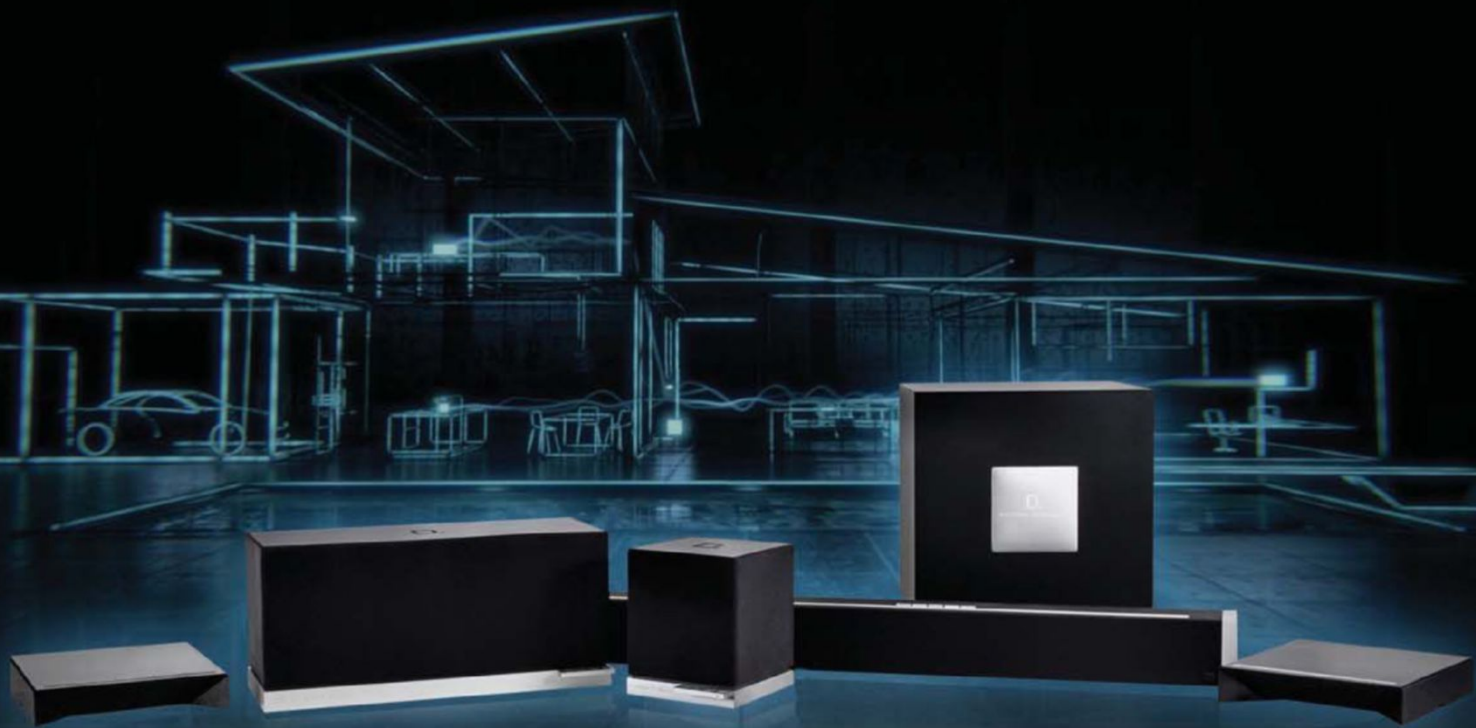
All-Star Upgrade Mariano Rivera brings his aging home theater into the big leagues.

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— Darryl Wilkinson, *Home Theater Magazine*



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"Most exciting soundbar demo I heard"
— Brent Butterworth, *Sound & Vision Magazine*

We call the SuperCinema 3D Array, quite simply, "an extra-ordinary high-end loud-speaker system disguised as a soundbar." It is designed to combine the form factor of a sleek, stylish soundbar, with the performance of a true, high quality, component system. The complete ultra-high-performance system would include a powered subwoofer and a receiver or separates; plus the 3D Array achieves superb three-dimensional surround performance with or without rear surround speakers. Its 2.7" thin cabinet is constructed of aircraft-grade aluminum and contains six of GoldenEar's signature cast spider leg basket bass/midrange drivers and three High-Velocity Folded Ribbon Tweeters along with our breakthrough 3D Technology that cancels interaural crosstalk distortion for total sonic immersion.



High-Velocity Folded Ribbon Tweeter (HVFR)



High-Definition Cast-Basket Bass/Midrange Driver

"Awesome just got redefined"

— Darryl Wilkinson, *Home Theater Magazine*

The 3D Array sounds amazing and the experts certainly agree. Al Griffin of *Sound & Vision* wrote that the 3D Array System, "...delivered at least 90% of my main rig's [Triton Two Towers] performance." Chris Martens of *The Absolute Sound* raved, "...a soundbar system so good that audiophiles might buy it for music playback alone...if asked to recommend a soundbar to please finicky, hypercritical audiophiles, this would be my hands down choice." And *Home Theater*'s Darryl Wilkinson summed it up perfectly when he raved that, "the width and openness of the soundstage was absolutely incredible" calling it "an instant classic" that is "a must-listen-to, top-of-the shopping list, soundbar-to-beat...when it comes to soundbars awesome just got redefined."

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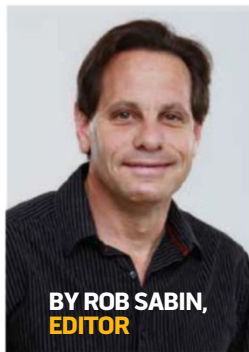
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January 2015

TrackOne

A THEATER AND A GENTLEMAN

The Closer Is a Class Act



BY ROB SABIN,
EDITOR

Last summer, *Sound & Vision* was invited to visit retired Yankee relief pitcher Mariano Rivera to profile a renovation that had been done, with JBL's help, to his private home theater. Baseball fans know Rivera as the Major League's all-time leader in saves, and undoubtedly a future Hall of Famer. As a *New Yorker*, I knew him as a fixture in my city for the nearly two decades he played here, when, on any given day from April through September (and frequently, October), he might be the figure gracing the back-cover sports page of the *New York Daily News* or *Post*. The very nature of Rivera's work as a closer—to be trotted out in the late innings to hold a slim lead or demoralize the competition and give his team a chance at the tying or walk-off run—made him an exciting figure.

This interview really wasn't going to be about baseball, but more about Rivera's theater and lifestyle. So to learn a little about his background, I picked up his autobiography, *The Closer*, which had come out just a few months before. The book offers his recollections of some great Yankee moments but also tells the story of a kid from a poor Panamanian fishing village who could have easily ended up on a boat instead of the pitcher's mound at Yankee Stadium. Rivera never forgot that fact or took it for granted, and he's quite open in the book, as he has been throughout his career, about the role his Christian faith plays in his life. His virtuous, hard-work approach had always set him apart from many other high-profile, mega-contract athletes, and I found when I spoke with him that he remains committed to always trying to do right by his family, church, and community.

Rivera's home, nearby the Stadium in New York's Westchester County, was impressive and appropriate to a man of his success trying to provide his wife and three sons a comfortable life, but it was not outwardly opulent or excessive in the manner I've seen while working as an installer in high-end estate homes in the New York metro region. Our team spent several hours there—first sitting down with Rivera, then taking professional photographs of the theater—and Rivera proved a gracious and friendly host, even as we began to run over on our allotted time. The theater reno had a good story behind it—the classic case of a room with good bones that

Rivera proved a gracious and friendly host.

never quite lived up to its promise, but turned into something special with some extensive, yet judicious, rehab. You'll find our profile on page 38.

As we were leaving, a piece of baseball memorabilia in the home's main entryway caught my eye. In a display case on the windowsill was what looked like a team-signed ball, with a handwritten note below it that said, "The fans of Boston thank you...". The Yanks/Sox rivalry is legendary, of course, and The Sandman, as Rivera came to be known, ruined many a night in Beantown. That some of Boston's passionate fans had stepped up to honor him this way speaks not just of his ability to win through the years, but of how he handled winning.

For me, that said it all.

JS



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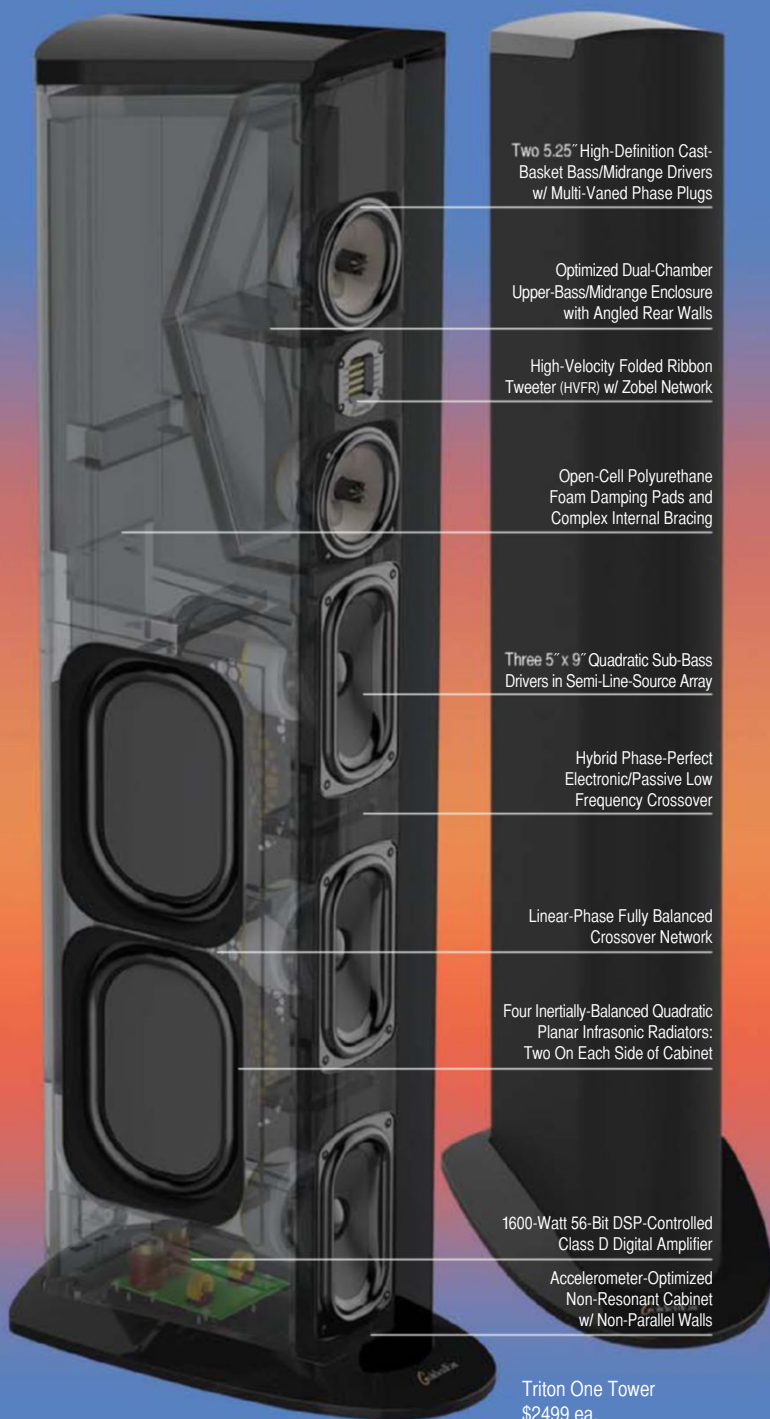
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GoldenEar has Engineered Our New Triton One to Perform Like a \$20,000+ Super Speaker!

"Triton One shames some speakers costing ten times as much ... it is an absolute marvel" – Caleb Denison, *Digital Trends*



Triton One Tower
\$2499 ea.

"Revelatory ... cosmically orgasmic ... these speakers absolutely embalm the competition"

– Darryl Wilkinson, *Sound & Vision*

"Best High-End Value at CES 2014 ... Sandy has created a speaker that defies its price point"

– John Sciacca, *Residential Systems*

"Best of CES 2014 ... stunning realism ... the sound was truly grand and majestic"

– Roger Kanno, *SoundStage*

"Best Sound for the Money at CES 2014"

– Jonathan Valin, *The Absolute Sound*

– Kirk Midskog, *The Absolute Sound*

– Neil Gader, *The Absolute Sound*

When three of The Absolute Sound's top reviewers all choose the same product for their own "Best Sound for the Money" honors, you know it is something truly very special, epic and iconic. Introducing the Triton One, an evolutionary speaker that builds upon all the advanced technologies that have made the Tritons mega-hits around the world. This new top-of-the-line flagship was engineered to deliver even better dynamics and bass than the extraordinary Triton Two, along with further refinement of all aspects of sonic performance. How well have we succeeded? In the words of HD Living's Dennis Burger, the Triton One delivers, "... the sort of upper-echelon performance that normally only comes from speakers whose price tags rival a good luxury automobile".

Triton One "creates visceral, tangible waves of pure audio bliss"

– Dennis Burger, *HD Living*

Great sound is what it is all about and the Triton Ones deliver, as The Absolute Sound's Chris Martens raved, "*The Triton One offers excellent clarity, highly three-dimensional imaging, subwoofer-grade bass depth and clout plus fine levels of low-end pitch, definition and control*". The Ones were specifically engineered to excel with all types of music as well as movies. Best of all, they offer previously unheard of value, as Brent Butterworth wrote in *Sound & Vision*, "*I heard a few people saying the Triton One sounded like some \$20,000-and-up high-end towers, but I disagree: I think they sounded better than most of them*". Darryl Wilkinson summed them up best, "*A Masterpiece ... GoldenEar has fully ushered in the Golden Age of the Loudspeaker*". Hear them for yourself and discover what all the excitement is about.

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GoldenEar's ForceField Subs: "Near perfect... a tour de force"

— Andrew Robinson, *HomeTheaterReview.com*



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FF4 \$699

"Thunderous...Room-Shaking"

— Al Griffin, *Sound&Vision Magazine*

GoldenEar's ForceField subwoofers are true over-the-top super subs that are especially remarkable for their compact size and unusually affordable prices. All three incorporate the same advanced technology and components including: DSP controlled high-power digital amplifiers (1000, 1200 or 1500 watts), ultra-fast long-throw high-gauss magnet structure drivers (8", 10" or 12") and pressure-coupled downward-firing quadratic planar infrasonic radiators. In addition, their uniquely shaped cabinets are not just attractive, but are also purposefully configured for dramatic performance benefits.

"Extraordinary bass prowess... I've never heard a sub this small go that deep"

— Steve Guttenberg, *The Audiophile*

With their high output capability, stunning impact, superbly musical bass articulation and breathtaking infrasonic low frequency capabilities, the ForceFields have received the highest praise from critics, experts and knowledgeable listeners around the world. Geoff Morrison of Residential Systems raved, "their thunder filled the room." AV Forums praised the, "monstrous output for such a small sub." Mark Fleischman of *Home Theater* wrote, "I was dumfounded" over their, "low frequency barrages with floor-shaking confidence." And to top it off, the British writer Stephen May raved, "this astonishing box can pressure-load a room like an angry Silverback" and Andrew Robinson warns, "Your walls, floorboards, and ceiling may just crap out on you." And, as Dennis Burger of *Tech Tell* observed, they are also, "shockingly musical!"

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"Top-Pick-of-the Year...GoldenEar's Triton Seven is One of the Great Steals in Audio Today"

— Sound & Vision Magazine

"a masterpiece of value oriented engineering—one that sets a performance standard that will not be easily matched or surpassed"

— Chris Martens, *The Absolute Sound*

"Stunning...a new standard...scores a perfect 10 with music and home theater"

— Steve Guttenberg, *The Audiophile*

GoldenEar's Triton Two and Three Towers have set new performance and value standards all around the world. Now, our extraordinary new Triton Seven follows in this auspicious tradition, bringing award winning Triton performance to a more compact size and even more affordable price range. The Seven's strikingly attractive and acoustically purposeful cabinet shape incorporates a precise rearward rake for a time-aligned coherent wave launch directed at ear level. A complex Linkwitz/Riley crossover perfectly blends the D'Appolito Arrayed twin 5.25" cast basket bass/midrange drivers and signature High Velocity Folded Ribbon tweeter for high-resolution reproduction of both music and cinema. And dual side-mounted sub-bass radiators deliver impactful, superbly detailed, subwoofer quality bass performance.

"Editors' Choice...a stunning example of how audiophile-grade sound can come from a speaker nearly anyone can afford"

— Caleb Denison, *Digital Trends*

The Absolute Sound's astute, highly critical writers often disagree, but not when it came to the Triton Seven. They all went absolutely bonkers! At the recent CES Show, four of their writers, including the editor, awarded it their highly coveted, "Best Sound for the Lowest Price Award." But even more importantly, a fifth writer, Alan Taffel, awarded it his, "Most Significant Product Introduction at CES (at any price)" honors. Why most significant? Because the Seven makes true high-end performance affordable for almost anyone!

"The Triton Seven is going to be on nearly everyone's short list for Speaker of the Year"

— Darryl Wilkinson, *Home Theater Magazine*

GoldenEar loudspeakers are the creations of industry legend Sandy Gross, whose Grand Prix Award winning speakers have been impressing and delighting reviewers and listeners for over 40 years. They are available worldwide at the finest audio/video specialty dealers. You must hear them for yourself. Visit our website to learn more and to find your nearest dealer.



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"With Triton Ones, GoldenEar Technology has fully ushered in the Golden Age of the Loudspeaker"

– Darryl Wilkinson, Sound & Vision

"In every criterion that matters to me, the speaker simply punches way above its weight class ... there's an awful lot of magic to enjoy here"

– Dennis Burger, HomeTheaterReview.com

"It provides extraordinary sound quality and value for the money. They have all—or more—of the features and technology that anyone looking for specsmanship could want, but their real merit is that they provide sustained musical pleasure with exceptional realism. Highly recommended"

– Anthony Cordesman, The Absolute Sound

"It is an absolute marvel ... Triton One shames some speakers costing ten times as much."

– Caleb Denison, Digital Trends

"Even with your eyes open, it's practically impossible to make yourself realize that you're not listening to living, breathing human beings playing actual instruments in front of you."

– Darryl Wilkinson, Sound & Vision

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Sub In or Sub Out?

As long as I've been reading your magazine, I have never seen you guys write an article on the pros and cons of having a separate subwoofer or two versus having powered subs built into the main speakers, à la Definitive Technology or GoldenEar. Just food for thought.

Mike Proctor
Houston, TX

I posed this question first to our audio technical editor Mark Peterson, a bona fide speaker engineer, and got the response I expected: Bass tends to be so room dependent that separating the sub from the satellites lends significant placement flexibility for optimizing the sound. "It's extraordinarily rare to have one spot in a room where the midrange and tweeter image their best, the bass is optimized, and aesthetics are acceptable. But it does happen, and full-range speakers can be a good choice," he said. "In most cases, though, the flexibility of splitting the upper-range satellites from the subwoofer has many advantages. Keeping the crossover point (the frequency where the hand-off to the subwoofer happens) below 80 hertz or so is recommend when possible. Remember, there's no rule saying you can't add subwoofers to augment bass in a system that has towers in the front; satellites needn't be physically small or limited in their output. The downside is a bit of added complexity during setup to get a seamless blend."

To hear another side of the story, I also reached out to Sandy Gross, founder of Definitive Technology and GoldenEar Technology, and a chief proponent of the powered-tower approach. To quote Gross:

"Building the subs [into the speaker] has everything to do with getting the blending right, especially for music, although it's clearly important for home theater as well. Blending [standalone] sub(s) with the main speakers is not a simple matter. First of all, if you are trying to blend a single sub, unless it is directly centered between the two front mains, it cannot be properly blended with both, because the distance between the two main speakers will be different, and distance is just one of the critical parameters that must be dealt with in order to get proper integration. If the parameters are correct to blend with one

speaker, they won't be correct for the other.

"But way beyond this, there are many critical parameters that must be optimized in order to blend the sub(s) with the main speakers, including phase, level, time alignment, etc., which, realistically, you need precise instrumentation and a talented engineer to do properly. A consumer, in their home, is not that. By engineering the subs as part of the main system, we can do it correctly. Designing the powered subwoofer as an

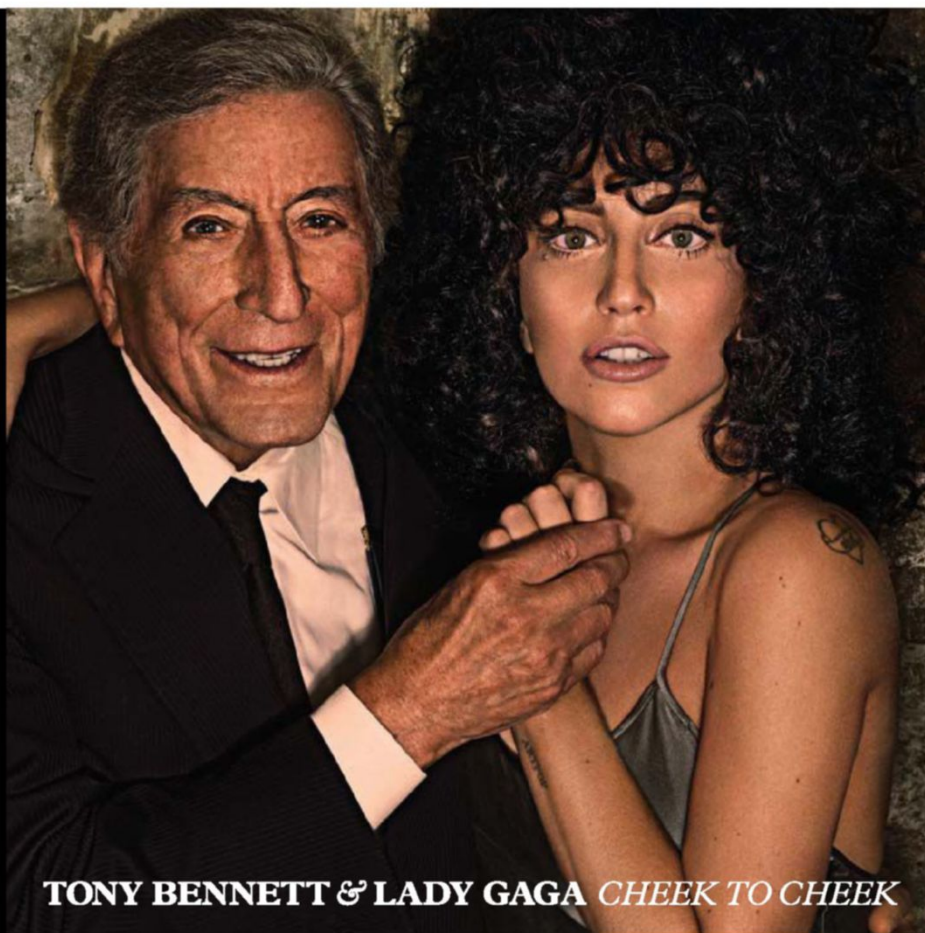
CLARIFICATION

Following our publication of an interview with the principal behind Dolby Atmos competitor Auro-3D (Premiere Design, October 2014), Dolby Labs contacted us to clarify what they saw as inaccurate statements by the interviewee in his description of Atmos technology. The following info was supplied by Dolby; the full article with Dolby's comments addended can be found at soundandvision.com.

- Dolby Atmos is currently supported for Blu-ray through the Dolby TrueHD codec, a lossless format that is equivalent to uncompressed PCM sound quality upon playback. The lossy codec Dolby Digital Plus supports Atmos for streaming and broadcast applications and has been updated to carry Atmos soundtracks without compromising spatial information.
- Existing Blu-ray players meeting current Blu-ray specifications can pass the Dolby Atmos bitstream with no upgrades required, though Dolby always recommends updating to the manufacturer's latest firmware.
- The channel-based bed component of Dolby Atmos as used in theaters is based on the standard 7.1 surround configuration. Two additional height bed channels are added for a total of 9.1 bed channels. Dolby Atmos then adds up to 64 additional speakers to reproduce up to 118 placed sound objects in addition to the 9.1 bed channels to achieve fully immersive sound. Dolby Atmos in the home playback space is 100 percent object-audio based.
- Dolby Atmos and the Dolby Atmos production tools are equally applicable to film and music productions.



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LETTERS

integral part of the loudspeaker gives you a degree of control over the various key parameters, which you could never achieve with a separate outboard sub. For instance, in our flagship Triton One, a 56-bit DSP device allows us to finely tune a complex series of phase and amplitude adjustments over a relatively broad range in order to perfectly blend the subwoofer section with the rest of the speaker. And, of course, having two subs does not just load the room better, dealing with the room modes/eigenmodes, but represents more subwoofer power. Also, building in the subs gives you

full stereo separation, right down through the lowest bass, as opposed to the situation with a separate sub where it is normally fed a monaural signal, even when there are two subs. In our Tritons, the speaker (and built-in sub, of course) would receive a full-range signal of its channel, including the deep bass, with the deep bass channeled by the circuit, to the sub. And then, there is a provision, if desired, for separately inputting the LFE signal. Of course, getting the subwoofer boxes out of the room is a significant side benefit. If you just want boom in the corner for home theater sound

effects, a separate sub can give you that. But if you are looking for fully integrated low-frequency performance for music and movie perfection, built-in subs are the way to go."—RS

Well, Woo to You, Too

I have to assume you printed Mark Fleischmann's article by mistake in the November issue. The Woo Audio WA6 headphone amp "reviewed" (also available at soundandvision.com) is an obvious preprint of your April Fools issue. The technically precise terms such as "creamy, grit free" describing the output of this device (if it is real) were creative hoots. The rectifier is historical, and in its 1932 form (it was a [General Electric] 80), it freed many farmers from battery radios; it sells for \$34.95 (cheaper elsewhere) in its modern form (5R4), and the 6DR7 at Tube Depot is \$6.95. The article was great fun to read while you were foolin' us. I'm glad you assigned a *Sound & Vision* Top Pick to this funner. Let's have more of these to lighten up your publication.

Gil Arroyo

Seattle, WA

Ladies & Gentlemen...

To Mike Mettler: Hi Mike, got the "Eight Arms..." *Help!* reference on the "Six Channels" review of *A Hard Day's Night* ("Six Channels to Hold You," November and soundandvision.com). I still have the 45 [rpm] of *Help!* with "From the Film *Eight Arms to Hold You*" printed on the label. Good one.

Mark LeBlanc

Pelham, NH

I want to compliment your magazine and staff for the most excellent review of the new Beatles mono vinyl release ("The Beatles Get Back to Mono," November and soundandvision.com). I've read several similar reviews, and the *Sound & Vision* was far superior in terms of detail and depth. Unfortunately, it was fatally flawed by the author's cheeky use of Beatles references throughout. They added nothing to the content of the story, and weren't funny or even clever. Other than that, a stellar job.

As for the review of the upcoming McCartney releases (*Venus and Mars* and *At the Speed of Sound*, November and soundandvision.com), another great albeit condensed review. I would only quibble with one statement: "...which flew up the charts with the live-in-studio leaning *Wild Life* (1971)." On the contrary, I remember this album doing very poorly and being universally panned by critics. My personal take on it was that it was weak for any artist and shockingly so as a McCartney production.

Scott Oakley

Phoenix, AZ

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—Mark Fleischman
Sound & Vision Magazine

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LETTERS

The Internet Is the Devil

I have an Oppo BDP-83, which was a secondhand gift from my brother who upgraded to a BDP-105. Upon renting a new copy of *X-Men: Days of Future Past*, I found that it won't play without updates. I went to the Oppo site to find that I must register the player to get an update disc (*Why? It's mine!!!*). The USB update wouldn't download from the site, and I don't care to drop \$45 for a long enough Ethernet cable to hook to my router. Needless to say, I am not happy. I have had several Blu-ray players now reduced

to virtual garbage because of this same scenario (yes, I do have two with built in Wi-Fi, but I *like* the Oppo). I am not terribly computer savvy, and despite 10 years in the audio/video industry in the '90s (and 15 years for my brother), I am not into complex equipment. I'm a drop-the-needle-and-crank-it sorta guy. I am *immensely* frustrated by the industry *forcing* me to use the Internet for everything. When I pay for a machine, I expect it to work regardless of "updates" or Internet connection. Oppo's Website has been less than helpful, and since their

customer service hours are Monday to Friday, I am stuck without a movie to watch this weekend.

My question is this: Why, just because the studio insists on cramming a bunch of useless BD Live special features on a disc, must the player not be able to at least function in its most basic intended capacity as a movie player? I am completely disinterested in special features, so why must they prevent basic playback? Let's say I lived somewhere without Internet. Is it fair that I cannot buy and watch a movie on a machine that I paid for? Car makers don't make your engine stop running without updates. I see no reason someone can't make a Blu-ray that just plays—as it should, indefinitely, with or without updates or Internet connection. This is a rip-off and yet another way the industry is pushing us away from hard-copy formats.

Matt Knight
Tucson, AZ

And While We're on the Subject...

Sometimes, a comment mostly irrelevant to an article will spark interest. This was the case for me when Mark Fleischmann, in his excellent (as always) review of the Denon AVR-S900W receiver (October, and at soundandvision.com) commented (parenthesis removed):

"My only complaint—admittedly a peripheral one—was that Fox studios [*sic*] disabled both the track-skip and the fast-forward keys for previews, so that I had to sit through 12 minutes of filler before being allowed to access the top menu."

I realize that similar complaints are about as old as the DVD itself, but the audacity of Fox to disable the ability to skip through the previews seems to be a new high (or low). It is bad enough that one must skip through them, but to disable that capability?

Can you imagine if CDs had taken that route? Many minutes touting other recordings before allowing the listener to hear the music for which they purchased the disc?

It is fine to include previews, just make them part of the bonus material!

Rant over.

Ed Tinnel
Lenoir City, TN

I can only agree about how abhorrent is this practice of wholly disabling the navigation keys upon every boot-up of a disc. Perhaps the only saving grace worth mentioning is that this was most likely a rental disc; hopefully the for-purchase version would not suffer the same fate. —RS

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NEW GEAR, TOP NEWS, HOW TO, AND MORE...

Edited by Claire Crowley

Supreme Being

● Pioneer Elite BDP-88FD Blu-ray Player

If there's such a thing as an end-all be-all disc player, the BDP-88FD just might be it. And its arrival couldn't be better timed as the first wave of Blu-ray Discs with Dolby Atmos soundtracks becomes available.

The new flagship of Pioneer's esteemed Elite series and direct successor to the highly acclaimed BDP-09FD, the 88FD carries a hefty \$2,000 price tag but is loaded with features that will delight audio- and videophiles alike. For starters, it plays SACDs and DVD-Audio discs plus just about every digital format known to man, including DSD, ALAC, FLAC, Monkey's Audio, AIFF, WMA, WAV, and all the usual photo/video file formats.

Construction is tank-like with a dual-layer iron chassis, rigid anti-vibration casing, and chambers that isolate the power supply, digital processing section, and audio circuitry from one another. As you'd expect, high-grade parts are used throughout, including high-grade capacitors and a reference-quality ES9018 ESS SABRE digital-to-analog converter (DAC). Audio aficionados will appreciate the player's Direct Function mode, which turns off all video circuits for pure analog playback.

Delving deeper reveals a number of video niceties, including Marvell's highly rated Qdeo video processor

and a new video engine comprising Pioneer's Precise Pixel Driver image processor and 4K Reference Converter, which upscales incoming video to 4K/Ultra HD resolution at 60p/4:4:4/24-bit for serious performance. The BDP-88FD also supports 36-bit Deep Color/x.v. Color and HDMI 2.0 connectivity at the standard's full 18-gigabit-per-second bandwidth.

DLNA certification ensures plug-and-play convenience for sharing content over a home network, and you can

convert your smartphone or tablet into a basic remote using Pioneer's free iControlAV5 App, available in iOS and Android versions. Support

for YouTube/Picasa viewing and YouTube's "Send to TV" feature is also on tap.

Connections are aplenty: two HDMI outputs (main and sub), coaxial and optical digital outputs, front and rear USB jacks, Ethernet and RS-232C connections, a Zero Signal Terminal that provides a reference ground for audio/video signals, and in yet another nod to purists, both balanced and unbalanced analog audio outputs.—
Bob Ankosko

Pioneer
(800) 421-1404
pioneerelectronics.com



This Just In...

By Mark Fleischmann

The Bose NFL Headset

uses noise cancellation to cancel the roar of stadium crowds. The circuitry is in a belt-loop box....



Onkyo's Dolby Atmos Upgrade

affects the TX-NR838, -737, and -636 receivers. Products shipping with built-in Atmos include the TX-NR3030 and -1030 receivers, flagship PR-SC5530 surround processor, and HT-S7700 HTIB...

Japan Still Loves CDs,

despite rules that keep new-title pricing above \$20. That's saved world music sales from an even more severe collapse than the current trend—but "if Japan sneezes and Germany catches a cold, we're done," says media analyst Alice Enders...

SiriusXM Got Smacked Down

when a California federal court ruled in favor of Flo & Eddie regarding public performance of recordings made prior to a 1972 revision in copyright law. This may mean big royalty paychecks for artists—and this court battle is just one of several, including the major labels versus Pandora in New York State...

UltraFlix Has Licensed

300 hours of Ultra HD streaming content from VGTel-360 Entertainment.

Titles include *Adrenaline Rush: The Science of Risk* and *Alaska: Spirit of the Wild*, *Bears and Amazing Journeys*...

Streaming of HBO and Showtime

is not unthinkable. Executives of both Time Warner and CBS have gently dropped hints that they're considering the option...

Verizon's FiOS Mobile App

has raised its in-home channel roster to 150 and its out-of-home to 58. Ten new additions include HD versions of HBO Latino, MAX Latino, More MAX, Showtime Showcase, and Starz Kids & Family...

DVR+ Now Has Pandora,

making Channel Master's over-the-air DTV recorder a little more interesting. It also supports Vudu video streaming, and more apps are expected by the end of the year...

Half of All Pay-TV

subscribers say they're willing to pay \$10/month extra for TV Everywhere access. If cable operators could get 18 percent of their subscribers to pay half that, the additional \$240 million would more than double their TV and video revenue...

Affluent Americans,

those with at least \$100,000 in annual income, love traditional TV, with 90 percent watching on a TV set in a seven-day period. However, almost half have a set connected to the Net, 23 percent own a Smart TV, and 23 percent have a media server or streaming device—so basically, the rich are just like the rest of us, they just have more money...

Netflix Post-Play,

the feature that counts down to the next episode when you're watching a TV series, has been added to Google's Chromecast dongle. It already runs on a range of other platforms...

Sony's SideView App

uses a second screen to provide interactive features. Thanks to a deal with Delivery Agent, it now includes a programming-related shopping function...

DOCSIS 3.1

may not be the catchiest headline, but the emerging platform from CableLabs is expected to provide 10 Gbps downstream and 1 Gbps upstream. It may get into homes by the end of 2015...

Wi-Fi Direct

is getting simpler, with screen mirroring turning into a one-step process, and DLNA devices discovering each other. The new spec from the Wi-Fi Alliance is expected to reach Smart TVs in 2015...

The Local Choice Provision

was yanked out of the 2014 Satellite Television Access and Viewer Rights Act by the Senate Commerce Committee. It would have

allowed satellite and cable subscribers to pay only for the channels they choose...

Two Public TV Stations,

KLCS of Burbank and KCET of Los Angeles, have agreed to share a single 6-megahertz channel slot, with the other slot to be auctioned off by the FCC for mobile broadband. FCC chair Tom Wheeler says the channel sharing works "seamlessly," but this will certainly mean less space on the airwaves for free HDTV...



Clear Channel Has Changed Its Name

to iHeartMedia, recognizing the growing importance of iHeartRadio, an online service that aggregates the streams of the radio giant's 840 stations. It's such a nice, warm, cozy name for the corporation that ruined commercial radio...



Guaranteed to play back die-hard video downloaders' files, but a mediocre performer.

Western Digital WD TV Personal Media Player

Performance ★★★★★
Features ★★★★★
Ergonomics ★★★★★

Western Digital WD TV Personal Media Player

By Barb Gonzalez

A Personal Matter

PRICE \$100

THE WD TV PERSONAL IS THE newest in Western Digital's line of easy-to-use media players. This model is geared toward users who like to stream downloaded content from their own libraries. It's obvious that the Personal isn't for everyone as it is the *only* streaming device I have tested that doesn't include a Netflix app. It does, however, have a number of other Web video apps and can use its integrated Miracast capability to mirror any app playing on an Android phone.

The WD TV Personal's case and remote look much like earlier WD TV models. The remote that has no direct-access keys to streaming apps, which are now commonly found with other streamers; perhaps Western Digital expects most users will opt for the WD Remote smartphone app. The app provides convenient access to the phone's keyboard for searching and logins, and it does include direct access buttons to almost any app on the WD TV. It proved reliable, as it easily reconnected to the WD TV even days after I'd previously used and closed the app, and it is one of the only dedicated remote apps that can power on a device.

As noted, the Personal is all about streaming your downloaded media. It boasts the ability to play almost any video file format—including MP4, AVI, MPEG-4, MOV, and high-quality MKV videos—and in my testing of file types, it lived up to the claim. The Personal has two USB connections for linking flash or external hard drives. And, unlike other media players that only work with PC-formatted hard drives, the Personal had no problem listing the

AT A GLANCE

+ Plus

- **Connected hard drives accessible as media server**
- **Plays virtually any video file format**
- **Miracast mirrors Android phones, tablets, Windows PCs**
- **WDTV Remote app**

- Minus

- **Sluggish processor**
- **No metadata services to enhance downloaded videos**

media on my Mac-formatted Western Digital Passport drive. It took a longer time to list the files from my La Cie PC-compatible drive, but it never listed files on my La Cie Mac-formatted drive.

Once a drive is connected, the WD TV Personal acts as a media server. Computers, media players, and mobile devices see the connected drive as a network drive. All media is available to stream on the Player or access from a computer. I was able to play and copy files to my computer as if the drive were connected directly.

When you click on the music, video, or photos app in the main menu, the WD TV Personal accesses the media files on your home network. As with earlier models, pressing the red button on the remote lists the types of sources available—Local Storage, Media Servers, Network Shares, and Social Media Online. Photos and videos that have been uploaded to

Facebook or Picasa are listed in the same way as media that are stored in home network libraries.

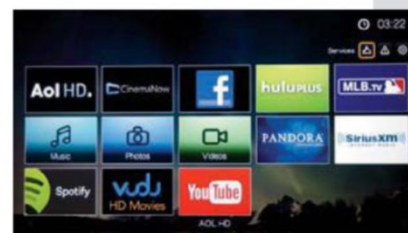
The WD TV Personal's music app continues to play music even when you've navigated to another menu or app. When music is playing, the current song displays at the top of the screen for quick access to music playback controls. What's more, I found that it could play a song from one network attached storage (NAS) drive, while simultaneously displaying a slide show of photos from the WD MyCloud drive.

Content

Along with what the Personal streams from your home libraries, it offers a number of apps including the Flingo collection of online videos. Popular apps include Hulu, Cinema Now, Spotify, and Vudu. Apps are found in their corresponding categories under the Services icon—Movies & TV, Live TV, Sports, Photos, Web Videos, Music, and News & Weather. You can access live TV through apps like SlingPlayer and Hauppauge! tuner/DVR for users who have a SlingPlayer or Hauppauge device. Combined with the ability to mirror any app that plays on an Android phone, there is no shortage of content to play on the WD TV Personal.

Performance

WD TVs generally have good-quality 1080p video and surround sound passthrough. Where Western Digital repeatedly fails, however, is in processing power. The Personal unit I received was incredibly slow, taking



a longer than average time to list and load files, open apps, and display menus. Using the onscreen clock, I could track the time it took to launch an app. Often, I watched the loading arrow for more than 2 minutes. Where I might be tempted to repeat a button press on the remote (to ensure that the device received the command), with the Personal, I knew that the device was just slow to react.

I also frequently encountered brief dropouts of sound and movie playback from NAS media servers on my home network. Likewise, when I mirrored from my Samsung Galaxy S4 Android phone to the WD TV, there was latency, and the delays caused nasty artifacts on the TV screen that were not present in the phone's display.

Final Thoughts

There are many media player choices available. While the WD TV Personal can play almost any video file format, so can the Plex app that is available on many media players, including the Roku box and the Fire TV. And I found the wait time for loading files, apps, and menus on the Personal unacceptable. If you're in the market for a WD TV player, I'd recommend the Play or the Hub.

SPECS

Dimensions 4.9 x 3.9 x 1.2 in •
Connections Ethernet, USB 2.0 (2), HDMI, composite A/V, Wi-Fi, optical digital



Western Digital • wdc.com

Congress Mulls 'Local Choice' Cable

Should cable and satellite subscribers pay only for the channels they choose? This long-discussed idea resurfaced when senators Jay Rockefeller (D-WV) and John Thune (R-SD) of the Senate Commerce Committee met with cable executives about potential "local choice" legislation.

Why this, why now? The senators want to end recurring battles over the fees cable and satellite operators pay networks for the right to carry local channels. The idea is to transfer the decision to pay (or not pay) from the cable or satellite system directly to the viewer. You want a channel? You pay for it. You don't want it? You don't pay for it.

Pay-TV providers have long resisted the concept of "à la carte cable," preferring their tiered business model. Anything that smacks of unbundling the tiers raises their hackles. But local choice would affect only local channels, and the cable and satellite companies are happy to use it as a stick to beat the major networks.

That's just what they're doing through a front group called the American Television Alliance, whose partners include cable operators, satellite operators, and some smaller cable channels and networks. Also on board are consumer groups such as Public Knowledge and the Parents Television Council, which have long supported à la carte cable.

So who's still against local choice? The bigger networks. When the ATA tried to air TV ads pushing local choice, four CBS-owned stations—in Las Vegas, Minneapolis, Pittsburgh, and St. Louis—refused to air the ads.

Congress will confront the issue of local choice as part of the Satellite Television Extension and Localism Act, which is up for renewal at year-end.—MF



● Thune (top) and Rockefeller

PERFECT FOCUS

Q&A

AL GRIFFIN

Sound Advice



I'm curious to know if there's any criteria for home theater component selection based on room dimensions. I want to focus my search on equipment that's an appropriate match for my space.

Bill King / via e-mail

There is one set of criteria that exists for selecting home theater components based on room dimensions: THX certification categories. The idea behind this system is to provide guidance for choosing receivers, amps, speakers, etc. that will enable you to achieve THX reference level (85 dB SPL with 20 dB of headroom) in a particular space.

Ultra2 is the top THX certification category. Components meeting this spec are meant for larger home theaters—up to 3,000 square feet with a 12-foot seating distance from the screen. The category directly below it is THX Select2, which covers products that are a good fit for home theaters up to 2,000 square feet with a 10-to-12-foot seating distance from the screen. There's even a THX category for small rooms: THX I/S Plus. This is meant for lower-end receiver-plus-speakers systems designed for snug spaces where you typically sit 6 to 8 feet from the screen.

The only downside to THX certification categories is that you need to, um, buy gear that's THX certified. A few companies—Onkyo, for example—routinely seek out THX certification for their products, but many other manufacturers don't bother, or only offer a smattering of THX-certified offerings.

I am in the market for a new home theater receiver and have a dilemma. My wife is hearing impaired and has trouble hearing the TV sound. We have tried a few infrared wireless headphone solutions and have been very disappointed by the poor sound quality. I am looking for a system that will allow me to hook up a separate set of headphones to run simultaneously with the TV sound. Is this possible?

John Bott / via e-mail

Depending on the capabilities of your receiver, it should be. Some receivers have a preamp out connection that provides a simultaneous stereo output you can route to a wireless headphone system. To do this, you may need to use some type of adapter—most likely stereo RCA-to-3.5mm mini. You may also be able to tap your receiver's second-zone capabilities, though the input source options might be limited (some receivers only pass analog audio input signals to a second zone).



Since you've already checked out some of the cheap infrared headphones and found out how bad they can sound, it's time to step up to a higher-quality option. Wireless headphone systems like Sennheiser's RS 160 (\$200) use Klear technology to wirelessly transmit digital audio. Klear uses lossless compression to preserve sound quality, and it's generally immune from interference. And the RS 160 is a closed, around-ear design, so you shouldn't hear any sound leaking from your wife's phones when you're sitting side by side in front of the TV.

What processes what in the video chain? Say you have an Oppo Blu-ray player hooked up to a good AVR that's hooked up to an Epson 5030 projector. Does each do its own thing? Or do you need to turn some types of processing off while leaving others enabled? Also, what is the meaning of life?

Jeff Riddick / via e-mail

It's not necessary for all components in the video chain to perform video processing—i.e., deinterlacing, upscaling, noise reduction. The best course of action is to use a test disc to determine which component provides the highest-quality

Is there any criteria for home theater component selection based on room dimensions?

processing and lean on that particular one to do the heavy lifting. For instance, say you've determined that your AVR does an awesome job handling video. You'd want to use it to deinterlace and upconvert video sources and pass them on at full 1080p or 4K resolution to the TV or projector, which would display them natively without additional processing.

As for your question about the meaning of life: "The ultimate answer to life, the universe, and everything is... 42!"—Douglas Adams, *The Hitchhiker's Guide to the Galaxy*

Handson

Grado SR325e Headphone

By Steve Guttenberg

Straight Outta Brooklyn!

PRICE \$295

THE NEW "E" SERIES GRADO headphones don't look all that different than the "i" Series models they replace, but the sound, while still recognizably Grado, is much improved. The "e" Series launch coincided with the introduction of the third-generation Grado, namely Jonathan Grado. Joe Grado founded the company in 1953, his nephew John Grado took over day-to-day operations in 1985, and now his son Jonathan is coming on board. The "e" Series headphones (and Grado phono cartridges) are hand-crafted in Brooklyn, New York.

The Prestige Series SR325e's refinements over the previous generation of Grado headphones include nearly every part, and the driver is all new. John Grado invested two years developing the "e" Series designs. Each pair of drivers is now matched to within a very precise 0.05 decibels of each other, and the powder-coated aluminum ear cups have a satisfying heft. The thick Y cable is permanently attached to the ear cups, but unlike previous generations of Grados, the cable is terminated with a 3.5mm plug. A 6.3mm adaptor plug for home use is included. Still, the cable is 64 inches long, which is a bit too long for portable, on-the-go use, and like

AT A GLANCE

+ Plus

- Aluminum ear cups
- Lively dynamics
- Retro design never gets old

- Minus

- Cable isn't user-replaceable
- Bass won't satisfy bass heads

most audiophile headphones, the SR325e cable lacks a phone mic or controls.

The SR325e comes in a plain cardboard box, nothing like the lavishly packaged boxes you see with most similarly priced 'phones. I find the minimalist approach refreshing. Grado puts their efforts into making the best-sounding headphones they can; the box is just a package, nothing more.

Warranty coverage runs to one year from date of purchase, but Grado's out-of-warranty service is exemplary. No matter what happens down the road after the warranty runs out, Grado will repair or replace your SR325e for a fixed fee, which is currently \$45, and that includes return shipping. So even if your first-generation, 21-year-old SR325 headphones fail, Grado will repair or replace them for \$45!

Few headphones in the SR325e's price class are open-back designs; the Sennheiser Momentum and NAD Viso HP50 are, for example, closed-backs. The SR325e is open-back, so it doesn't isolate the wearer from external noise like a closed-back would, but the SR325e produces a larger, more spacious

soundstage. It's not a subtle difference.

I listened to Jamey Haddad, Lenny White & Mark Sherman's *Explorations in Space & Time* all-percussion jazz CD on the SR325e and Viso HP50 headphones, and it was a study in contrast. The Viso HP50 was sweeter and fuller sounding, so the big drums' weight and scale were more realistic, but the SR325e reproduced the percussion and smaller drums' transient attacks more accurately. There's also an undeniable *immediacy* to the sound. The Viso HP50 pulled back and softened the drums' presence. I went to the recording sessions, so I can also tell you the SR325e's ability to place the instruments within the acoustic space, a large church in Greenpoint, Brooklyn, far outpaced the Viso HP50. The SR325e had a lot more get-up-and-go excitement.

To see how the "e" Series models' sound differs from the previous-generation Grados, I pulled out my SR225i headphones, and the first thing I noted was that the SR325e was a little easier to drive, so it played louder at the same volume setting. Next, the SR325e's skills reproducing vocals were much improved. The SR225i thinned them out.

RATING

Grado SR325e Headphone

Performance ★★★★★
Build Quality ★★★★★
Comfort ★★★★★
Value ★★★★★



THE VERDICT

Grado's latest generation of made-in-Brooklyn headphones have a big, spacious sound and potent dynamics.

Switching over to the SR325e transformed Jeff Tweedy's vocals on Wilco's *Yankee Hotel Foxtrot* album for the better; they were more natural and realistic. The bass smoothed out over the SR325e—it's a much better-sounding headphone.

Grado offers ten "e" Series models, ranging from the \$79 SR60e to the \$1,695 PS1000e. I'm looking forward to auditioning a few more!

Grado Labs • gradolabs.com

SPECS

Type: Over-the-ear • **Weight:** 11.4 ounces • **Impedance:** 32 ohms
• **Sensitivity:** 99.8dB/1mW



It's here. The redefinition of your audio and video experience. The Emotiva XMC-1 combines precision 7.2 HD surround decoding, balanced audiophile multichannel preamplification, and full 4K video management with the power of Dirac Live™. Whether you're running the latest movies or high-definition audio, get ready for the most powerful, immersive experience you've ever had.

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The Connected Life

JOHN SCIACCA

Automagic Lifestyle



Automation describes using control systems to operate equipment or other applications with little or no human interaction. At its simplest, home automation could be a garage door opener or a mercury-filled thermostat kicking on your HVAC system; and at its most complex, there's virtually nothing an automation system can't do.

The Internet of Things (IoT) is imminently upon us, and it's estimated there will be somewhere between 26 and 30 billion connected IoT devices within the next five years. This will be a huge boon to home automation systems, which rely on communicating with multiple, often disparate, devices to make our lives easier and (hopefully) better. While triggering most home automation activities involves pressing buttons like Goodnight or Watch Movie on a keypad or remote, the coolest aspects of a home automation system in my mind are the ones that take place seemingly on their own, "automagically" as you live your life.

In my own home, I have Crestron, Control4, and Lutron systems handling lights, shades,



is above a certain level. Throw in a time-of-day variable, and a motion sensor could set lighting to different levels: say, 100 percent when tripped during the day but only 30 percent for a middle-of-the-night bathroom trip. The other half of a motion sensor's job is turning devices off again when no one is in the room to conserve energy.

Security System Integration

Like motion sensors, there are a ton of features and sensors that can be integrated into your automation system from a typical security system for housewide synergy. For example, a door sensor could be used to turn on lighting, ensuring you never enter a dark home. The security system's Arm to Away button can adjust lights throughout, set away HVAC temperatures, and turn off all the TVs. At my custom installation showroom, we use the Disarm command to turn on all the store's lights and televisions.

Door Lock

An integrated door lock can provide many of the same hands-free automation integration features of a security system, with simple programming that lets you set events on whether the door is locking or unlocking and whether it is done from a code or manually. For example, when I unlock my back door using the keypad code, it knows I'm coming in and triggers my control system to turn the hall lights on. When I unlock it with the knob, it knows I'm going out, and I have it programmed to automatically relock the door after two minutes.

Astronomic Time Clock

These are definitely my favorite no-touch automation actions because once programmed, they happen automatically every day, with no thought or effort required: the true essence of automation! Virtually any modern automation system can initiate activities at specific times of the day or tap into changing sunrise and sunset times to make sure the system literally keeps up with the times. At my house, my blinds raise each morning at 8:00 to let in morning light and lower at sunset for privacy. My exterior lights come on at sunset and then go off at sunrise. This provides security lighting at night, and I never have to worry about them being left on all day long. The system's clock can also be used to run timers that can execute commands X amount of time after another event happens, which is great for turning off lights or locking doors.

Samsung Offers UHD Content

UHD TVs are on the market, but Ultra HD programming is all too scarce. That may be about to change. Samsung announced at a Berlin trade show that its UHD Smart TVs would support UHD streaming from Amazon Instant Video as well as smaller outfits such as Chili, Maxdome, and Wuaki.tv. The Amazon service was slated at press time to start reaching Samsung Smart TVs in October. For UHD TV early adopters, Samsung provides a 500-gigabyte hard drive loaded with 40 UHD movies including *Life of Pi*. —MF



Amazon Lists Automated Cities and Products

What are the five top cities in home automation? According to Amazon, they are: Miami, Seattle, San Francisco, Atlanta, and Portland. How does Amazon know? Because it's been running a Home Automation Store for a year now. Its top five bestselling home automation products are the Bose SoundLink Bluetooth speaker (\$199), Nest Learning Thermostat (second generation, \$249), Sonos Play:1 streaming speaker (\$199), Foscam F18910W Pan & Tilt IP/network camera with Wi-Fi monitoring, pan-and-tilt, and night vision (\$65), and Dropcam Pro Wi-Fi video monitoring camera (\$200). The thermostat and cameras are controllable by smartphone, tablet, or laptop. Visit the Amazon Home Automation Store at amazon.com/homeautomation. —MF



The coolest aspects of a home automation system are the ones that take place on their own.

fans, HVAC, door locks, and my A/V system. Here are a few automagic things I have programmed into my system, ensuring the house does what I want it to.

Motion Sensors

Frequently used with security sensors, motion sensors—often called "occupancy sensors" in the automation world—are terrific for sensing when a room is in use. If you have a security system with sensors already in place, there's a good chance they can be tied into your automation system. If not, several companies offer relatively affordable battery-powered sensors that easily install in no time. These sensors can turn lights on as you enter an area, and I've placed them in my bathrooms. I just walk in, and the lights pop on. Once you've lived with this convenience, it very quickly becomes an indispensable lifestyle feature. Motion sensors can also be used in conjunction with other devices, say your HVAC system, to turn a fan on or raise or lower shades if the temperature

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The Good Old Days



Saturday night at Molasses Junction. Good food. Well, bar food. And spirits, lots of spirits. There are Harleys parked outside in the gravel lot. I pity the fool who backs his Prius into one of those hogs. Some attorneys and doctors ride Harleys on weekends. I scrutinize the gentlemen and lady who are riding these Harleys and try to imagine any of them giving me an appendectomy. Uh, no. That's never going to happen.

My table is lively with conversation. You already know how the thread goes. The government is messed up, our bosses grind on us all week long, the new Corvette blows the doors off the old Corvette, college football is way better than pro football. Then we talk about man caves. The mood intensity clicks up a notch. Man caves are serious business. Who has 4K? Who doesn't? The question of cost comes up. The new stuff is awesome, but it's awfully spendy. Not like the old days, when the stuff only cost a few bucks. If only we could get those old-

TVs were expensive in the good old days, and the good ones are expensive now.

timey prices. With a straddle and a flourish, the bikers roar away. We settle into our Priuses (Prii?) and hum away.

The morning after, cobwebs clearing, I wondered—were electronics really better deals in the good old days? You know—like in the 1960s? Vietnam, Woodstock, hippies, muscle cars, and the space race. LPs had blown away 78s. If you wanted to be cool, you needed a stereo, baby. Tubes and phono cartridges created hi-fi. Then solid state made it convenient and portable. Most TVs were black and white, but color was coming. In the fall of 1965, half of the prime-time broadcast lineup was in color. But sales of color TVs did not surpass B&W sales until 1972; partly that's because early color



TVs were tubed and heavy and unreliable. Picture quality was poor, and color changed dramatically from channel to channel. Remember the Tint knob? Not to mention Vertical Hold and Horizontal Hold.

And the prices? In 1960, the starting price for a 21-inch color RCA television was \$495; deluxe features like a UHF tuner cost extra. In 1960, the average annual salary was \$4,007. Before income taxes, you would have to work 31 days to buy that TV.

Fast forward to today. Factoring in inflation, that \$495 RCA would cost \$3,978 in today's dollars.

The average annual salary (in 2012) was \$44,322. That means you would work 22 days to buy that \$3,978 TV. Not too bad. Also, your new TV would be somewhat bigger than 21 inches. For example, four grand would buy you a 70-inch Sharp AQUOS 4K Ultra HDTV, 2160p and 120 hertz. (Interestingly, it doesn't have a UHF tuner, either.)

Looked at another way, what does a same-size TV sell for today? You can buy a contemporary 22-inch RCA, 1080p, for about \$190. That's \$24 in 1960 dollars, or about 1/20 the cost of the \$495 TV.

TVs were expensive in the good old days, and the good ones are expensive now. But by any reasonable measure, TVs today cost a fraction of what they used to. And that doesn't even begin to consider the improvements in picture quality, reliability, features, size, weight, or energy efficiency. A modern flat-screen Smart digital TV is only similar to a vintage TV in that both show moving pictures. Otherwise, they have little in common, so far advanced are modern TVs.

It's fun to imagine how much better life would have been in the good old days. But the reality is that at least from a standpoint of TVs, we are living in the best of times. Vintage Harleys can be worth a small fortune. Vintage TVs, not so much. Would I trade my 2014 70-inch 4K Sharp for a 1960 21-inch RCA? Uh, no. That's never going to happen.

The Devil's in the UHD Details

TV Technology reports that the Weather Channel is vowing to have "4K in four years," an end-to-end strategy for acquisition, production, and distribution, including 60-fps video and 10-bit color. One benefit, says the channel's media technology chief Phillip Grossman, is safety: "When capturing tornadoes, our teams can stand away from the weather a bit and still get the shot." But the devil is in the details.

Ultra HD editing equipment is "just getting started" and "not ready for prime time," according to a manufacturer survey by the same trade journal. "Although cameras, computers, and NLE [non-linear editing] software programs may be ready for 4K/Ultra HD, the bandwidth and storage demands for a fully functional real-time workflow are still not in place."

To get those dramatic shots, you also need UHD-worthy lenses and switchers, says Marc Orgera of F&F Productions, who outfits trucks that shoot sporting events. "I'm not saying that they're not going to be here in a few years, but they're not here today." —MF



UHD Now Comes with Logo

Is a UHDTV not a UHDTV if it doesn't have the Ultra HD logo? Not necessarily. But the Consumer Electronics Association hopes its new logo will herald the new display technology on the sales floor. A product of the Ultra HD Communications Working Group, it is offered for voluntary use. There are two versions: "4K Ultra HD" and, for Smart TVs, "4K Ultra HD Connected." Presumably, products will have to measure up to CEA's UHD technical standards (on which we've reported previously). CEA has nearly doubled its forecast of 2014 UHDTV sales from 485,000 to 800,000. —MF



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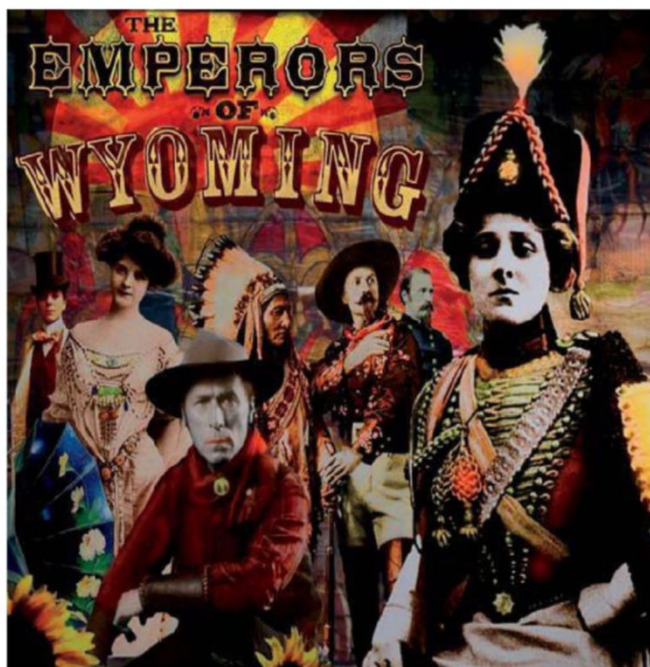
MIKE METTLER

The Filesharing Adventures of Butch Vig and The Emperors of Wyoming



Every musician needs a passion project, and über-producer Butch Vig

(Nirvana, Smashing Pumpkins, Garbage) is no exception. Enter *The Emperors of Wyoming*, a grainy, smoky spaghetti Western come to life. It's pure Americana through and through, from the defiant twang of "I'm Your Man" to the harmonica-driven sing-along jangle of "Cruel Love Ways." Vig and the rest of the EOW gang decided to update the 2012 album for a 2014 Deluxe Edition from Liaison Records ("a Super Duper Super Deluxe Edition," Vig clarifies) by adding two covers and one original, "Drinking Man's Town." Unlike the bulk of the record—which was constructed by cross-country file-sharing—"Town" was cut live. Reports Vig, "It was one take, with one microphone on the guitar and the voice, and by far, it's the rawest-sounding track on the record." Here, Vig, 59, and I get down to discussing the Emperors' recording techniques and his view of high-resolution audio. Right from the hilt of the holster, Vig and The Emperors sure know how to draw big.



MM: The Emperors are spread out all across the U.S., so tell me how the album came together via fileshare.

BV: Well, all of the songs sort of start with Phil [Davis] sending an acoustic guitar and vocal track. He'd post it up on the Emperors FTP site, and then I

would download it into my computer and put drums on it. Sometimes I might add some keyboards or a guitar or add some ambient noise bits, and then I'd load it back up. And then Frank Anderson would download it onto his computer. He's the multi-instrumentalist in the band, and his brother Pete [Anderson] would then download the session and put bass on it. Frank is who we call the keeper of the files. He'd download them all and get them into the rough arrangements. When we realized we had a record coming together, he went to Milwaukee and worked with a wonderful mixer named Alex Smolinski. You can imagine what he had to deal with in terms of what was being recorded in different home studios over a two-year period. There was a lot of variety in the tracks he had in hand, and he was able to rein everything in and give it all a very cohesive feel.

MM: We're now able to hear a lot of music by way of high-resolution downloads in 96-kilohertz/24-bit, and sometimes even in 192/24. Do you feel encouraged about that?

BV: I do feel encouraged by it. Even something that came out on 44.1-kHz/16-bit is going to sound better if you let it have a more open resolution versus a crushed-down MP3 file. Even if it wasn't originally 96k, it's going to sound better when it's remastered in high res.

MM: You and I are going to pay for high-res music, of course, but will Joe and Jane MP3 Listener be willing to?

BV: If the general public is going to embrace it, the labels and the people who put it out have to make it readily available and cost-effective. People just want to hear the music. It's frustrating to me, after spending all of this time in a studio working with great microphones, great mixing consoles, and great rooms, and laboring over this great music that you hear on great speakers when you're done. And then you get to the final mix and you realize, "So many people are *never* going to hear it like this." There will be an audience for high res, because there always will be people who want to hear high-quality audio, but I just don't know if it's going to filter over into the mainstream. We've always slaved over the Garbage records, and I want them to be heard in as high fidelity as possible, because there's a lot of detail you don't hear when it gets compressed into MP3.

An extended version of the Mettler-Vig Emperors Q&A appears in The S&V Interview blog on soundandvision.com.



John Christian Adams

CD

LABEL: Liaison

AUDIO FORMAT: 44.1-kHz/16-bit PCM Stereo

NUMBER OF TRACKS: 13

LENGTH: 52:25

PRODUCERS: The Emperors of Wyoming

ENGINEERS: Matt Pedri, Butch Vig, Frank Anderson, Phil Davis

PERFORMANCE ★★★★★
SOUND ★★★★★

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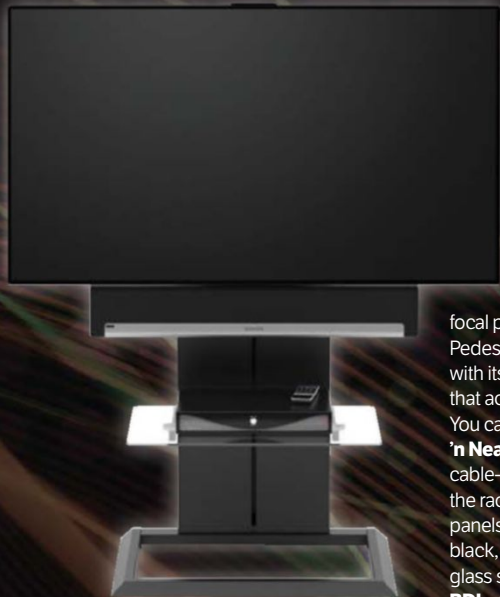
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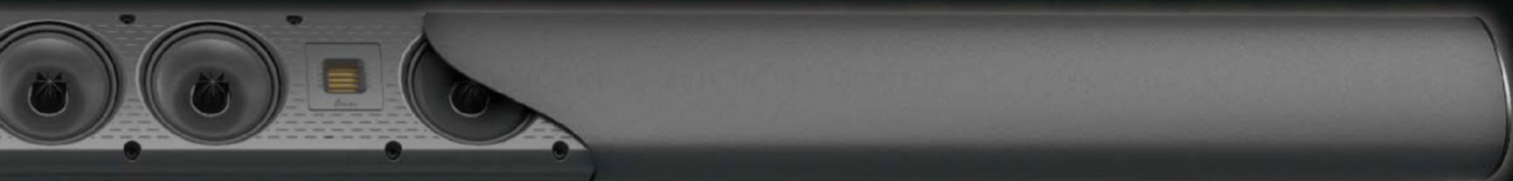
◀ BDI Totem 9930 AV Pedestal

Sometimes a basic A/V rack is all you need—especially in rooms where space is limited and entertainment furniture is not the focal point. The neat thing about the Totem AV Pedestal is that it goes well beyond the basics with its integral soundbar bracket and swiveling TV mount that accommodates screens between 50 and 70 inches. You can even adjust the height of the TV during setup. **Nice 'n Neat:** A peek around back reveals a well-thought-out cable-management system that conceals unsightly wires in the rack's main support column behind removable magnetic panels; there's even room for a power strip. Finished in textured black, the Pedestal is 58.5 inches tall and comes with an adjustable tempered-glass shelf; a second shelf is optional. **Price:** \$799
BDI • (703) 803-6900 • bdiusa.com



⬆ Epson Pro Cinema LS10000 Projector

Step into the world of high-performance video projection, and you expect a whole host of picture refinements. The THX-certified LS10000 uses three-chip reflective LCD (liquid crystal on quartz) technology and laser illumination to achieve 15 lumens of color and white brightness, "absolute black" contrast ratio, wider color gamut, richer colors, and smoother gradations, according to Epson. Though not 4K/Ultra HD-capable, the 1080p light cannon draws on pixel-shifting processing to double the apparent resolution when fed a 4K signal. It also supports 3D playback (glasses included) and includes a WirelessHD transmitter for connecting up to five HDMI devices simultaneously. ISF calibration tools round out the projector's enthusiast appeal. **Worry-Free:** Because the LS10000 uses a laser light source rated for 30,000 hours of service, you'll never have to worry about replacing a lamp. **Price:** \$8,000
Epson • (800) 463-7766 • epson.com



◆ **GoldenEar SuperCinema 3D Array XL Soundbar**

Super, indeed. The new 62-inch-wide XL version of the SuperCinema 3D Array, which nabbed an S&V Top Pick in 2012, is designed to accommodate TVs 65 inches and up. Finished in gloss black with a marble-powder-infused baffle and end caps, the svelte soundbar squeezes eight 4.5-inch woofers and three of GoldenEar's signature folded-ribbon tweeters into an aluminum enclosure that's only 4.75 inches tall and 2.75 inches deep; the center section comprises four woofers arranged around a tweeter in what audiophiles call a two-stage D'Appolito array. **Arc of Sound:** "3D image optimization technology" uses two drivers on the soundbar's outermost edges to cancel out crosstalk distortion between the left and right channels. The result? A soundstage that "envelops listeners in a true 180-degree-plus soundfield." **Price:** \$1,599

GoldenEar Technology • (410) 998-9134 • goldenear.com

➔ **Atlantic Technology 44-DA Dolby Atmos-Enabled Speaker**

As Dolby Atmos audio products and Blu-ray titles trickle onto the scene, enthusiasts are abuzz over the prospect of creating a three-dimensional listening experience at home but somewhat anxious about how to deal with overhead sound—especially in rooms where mounting speakers in the ceiling is not in the cards. The 44-DA speaker module can be used as a stand-alone "elevation speaker" to update an existing home theater setup for Dolby Atmos playback, or placed atop Atlantic's 4400 LR speaker for a unified look. **Right Angle:** A 5.25-inch woofer with a concentric silk-dome tweeter fires from the top of the 5.5 x 8.4 x 9.5-inch enclosure at an angle calculated to achieve a "controlled acoustic scatter" effect as sound bounces off the ceiling. Clever, huh?

Price: \$499/pr

Atlantic Technology • (781) 762-6300 • atlanticttechnology.com



◆ **Artison RCC Nano 1 Subwoofer**

You have to see the Nano 1 in person to appreciate how small—and powerful—it is. The handiwork of renowned speaker designer Cary Christie, Artison's first freestanding subwoofer packs a 300-watt amplifier and two 6.5-inch woofers into an aluminum cabinet that's less than 9 inches square. Accoutrements include high- and low-level inputs, a 12-volt trigger, IR (infrared) control, and wireless connectivity; a compatible wireless transmitter is available for \$99. **Vibration-Free:** The Nano 1's "reactance canceling configuration" and the use of special damping materials is said to minimize vibration, meaning you can put the micro sub on a shelf without having to worry about it crashing to the floor. Frequency range is rated at 32 to 160 hertz. Available in black or white. **Price:** \$899

Artison • (775) 783-4770 • artisonusa.com





The Other OLED

Beyond deep blacks, HDR sets go after the highlights. By Geoffrey Morrison



What makes a good TV picture? Sharp detail? That's a factor, sure. Vibrant color? Of course. What about brightness? Definitely, you don't want a dim picture. How about black level? That's vital. After all, you don't want grayish blacks; that wouldn't be lifelike.

The biggest key, however, to a really spectacular image is the *combination* of brightness and black level. Contrast ratio—the difference between the brightest image a TV can produce and the darkest—is the most important aspect of a TV's overall picture quality. Yes, you need good color and detail, too (and low noise, and some other factors), but a truly impressive contrast ratio is going to win out. We've seen this time and time again here at *Sound & Vision* (and before, at *Home Theater*).

New TV technologies like OLED and LCDs with a local-dimming LED backlight (and “old” technologies like plasma, may it R.I.P.) can create some extraordinary contrast ratios, but they're still nowhere near what the human eye is able to see.

That's where HDR, or High Dynamic Range, comes in. And the potential is awesome.

All About the Contrast

Several years ago, I conducted an epic (if I do say so myself) TV faceoff, where a group of panelists (professional reviewers and

enthusiasts alike) compared several LCDs, plasmas, and even the last of the DLP rear-projection TVs. All were calibrated, and all displayed the same 1080i HD signals. The TV that won, hands down, wasn't just a plasma but a plasma with 720p resolution—roughly half the pixels of the other TVs. Why? The winner had a significantly higher contrast ratio. That TV was a vaunted Pioneer Kuro, a member of one of the greatest TV lines of all time.

More recently, Value Electronics in Scarsdale, NY, conducted their own annual TV face-off, and while their methods were a bit different, the winner their customers and members of the electronics press chose was the new LG 55EC9300 OLED, almost entirely because of its incredible contrast ratio. And that was against a bevy of local-dimming LED LCDs, and even the last of the great plasmas, the Samsung F8500.

I, and nearly every other TV reviewer, can confidently say that contrast ratio is the most important aspect of picture quality. It's easy to see why. A high-contrast image looks more realistic and offers more apparent depth, while a low-contrast image appears washed out and artificial.

Increasing a TV's contrast has been one of the main picture-quality goals for all manufacturers, regardless of their chosen technology.

Achieving deeper and deeper black levels—one half of the contrast ratio equation—has been an ongoing quest. Local dimming was created in an effort to make LCDs appear to have a similar contrast ratio to plasmas. The best of these do a pretty good job. OLED's great claim to fame, its breakthrough, if you will, is in delivering remarkable, infinitely inky blacks.

But even OLED, as impressive as its contrast ratio is, still doesn't look like a window on the world. It's *close*, certainly closer than we've ever gotten with any other technology, but it's still a “TV.” Why is that? It's because, even with unmeasurable black levels, the brightness of highlights in our current televisions still can't mimic real life.

Dolby and several other companies aren't just aware of these limitations; they're actively working on a solution. What they want to do is really push that envelope of brightness *and* black level, expanding the contrast ratio into something they call High Dynamic Range.

An Acronym You Can Love

Imagine you're outside on a sunny day. (Terrifying, I agree, but stay with me here.) You look down the street, along a row of cars. The sunlight reflects off the windshield of one, dazzlingly bright. On the side of that car, the tires are in shadow. Your eye can see both the intense brightness of the reflected sunlight and

the comparatively dark area where the tires are.

A TV with a high contrast ratio will show that scene pretty well: bright reflection, dark shadow. A TV with a poor contrast ratio will show either a bright reflection and a bright gray shadow, or a dim reflection and a dark shadow—that is, not high brightness and deep black level at the same time.

Another example: It's night, and you're walking along a road. A car comes around a corner with its high beams on. A high-contrast TV will be able to show the bright lights and keep the background dark, while a low-contrast TV will have to make a choice between the two.

Enter HDR. Imagine a TV that, in the first example, shows the shadowed tires but can still display the reflected sunlight as genuinely *bright*. Like it would be in real life. Or imagine a picture in which those high beams truly pierce the darkened screen around them.

How bright are we talking? Well, if you have an LED LCD at home, and you crank up the backlight, you can probably get around 100 foot-lamberts of brightness on pure white highlights. Plasmas, which make their own light and don't have the benefit of LEDs to drive the picture, produce less than half that. The folks at Dolby, with their Dolby Vision HDR technology, are talking about a TV capable of 5,837 ft-L (or, as they say it, 20,000 nits).

Now, I can hear you already: “OMG, it burns, it burns, turn it off.” You, my recently singed and blinded friend, would be correct. A TV that puts out a continuous 5,837 ft-L would be unwatchable anywhere but on the surface of the sun. Probably not even there—not without a welder's helmet and some Perrier.

It all comes back to contrast ratio. *That's* what the real story is. The idea of HDR is not to make an ultrabright TV—at least, not in and of itself. The idea is to make a TV with enough headroom to create truly bright highlights, while at the same time creating inky deep blacks. So to use the first scenario I mentioned, the average across the entire screen might be 30 ft-L, with the shadowed tires around 1 ft-L but the small area of the reflected sunlight 200 ft-L or more. In the nighttime scene, the blacks in the sky would be as close to 0 ft-L as possible (no light), but the bright headlights—and *just* the headlights, mind you—could be 100 ft-L. These numbers are just examples, but I think you get the idea. Basically, it's an image that mimics what you would see in real life, not an image created by a screen in your den.

You may be wondering about “regular” local-dimming LED LCDs—what you've seen in stores, in these pages, or perhaps in your home right now. HDR is the same idea but gone a few steps beyond. Think of HDR as local dimming on meth. Maybe more than that. Meth and melange.

The Signal

Creating an HDR TV is great, but what about improving the *content*? This is the other aspect of what Dolby calls its Dolby Vision concept. They want to improve the video signal to make sure the content supports what an HDR display could do. This is no trivial endeavor. Much of our current content is still created within confines established by the limitations of CRT televisions.



● **Dolby's prototype HDR display next to a common LED display. (Note: The actual image brightness cannot be rendered by the photograph.)**

Notably, Dolby hopes to expand the video signal's color gamut and bit depth. The same types of enhancements are under serious discussion by those considering the future of Ultra HDTVs, apart from the 4K resolution that is its current primary selling point. Color gamut determines the range of colors possible in the signal. Current TVs, bound by the HD color spec Rec. 709, don't offer nearly the rainbow of fruit flavors visible to the eye. For example, the deepest reds, a decent purple, and many other colors just aren't possible. As part of Dolby Vision HDR, Dolby wants to have richer colors available on the painter's palette for film and TV directors.

Bit depth, on the other hand, defines the range of shades of those colors. Think pink, red, scarlet red, brick red, maroon, and every step in between. Our current video system has 8-bit depth, meaning there are 256 shades for each of the primary colors: red, green, and blue. So, yes, technically it's 24-bit, but it's referred to as 8-bit. With all the combinations of shades available

● **Scenes from Dolby's HDR test loop, rendered to show relative contrast levels on standard LED (left) and HDR. (Note: The actual image brightness cannot be rendered by the photograph.)**



THE OTHER OLED

(256 x 256 x 256), this calculates out to a theoretical maximum of about 16 million. Dolby wants to go to a 12-bit system, or 4,096 shades per color, for a maximum of more than 68.7 billion colors. All those additional shades will mean a much finer and smoother picture (with no apparent banding) in areas of the picture composed of transitioning colors—a sunset, for example.

If you're wondering what you'd use to create content with more range, color, and gradations, well...turns out that's fairly easy. Modern digital cinema cameras are already capable of capturing far greater image quality than is possible with current TVs.

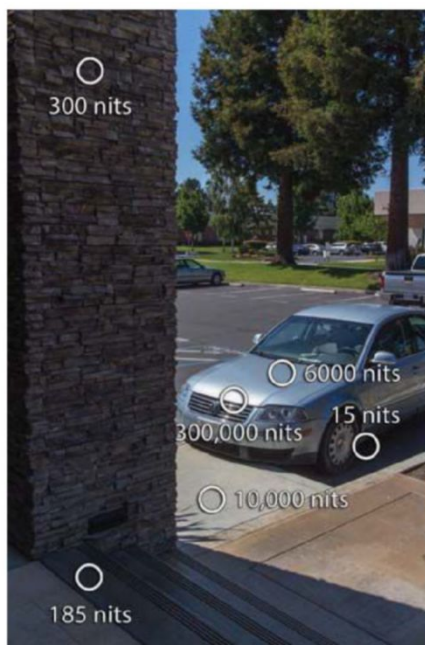
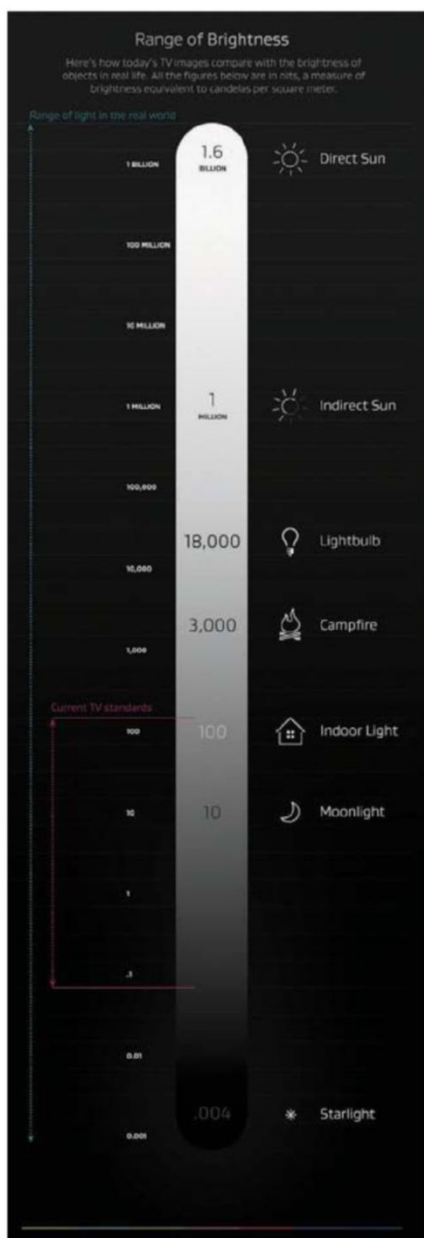
Getting that better content to your home, however, is a bit of a challenge, though not insurmountable. The next generation of video compression, HEVC, has the potential of carrying 10-bit color depth, and HDMI has a lot of bandwidth, thanks to the 2.0

specification. So some of the pieces are already here.

Getting a TV to produce a wider range of colors is also easy, or at least easier than hitting a mammoth contrast ratio. Almost every TV on the market today can produce a wider-than-needed color gamut that produces some wildly inaccurate colors when fed today's Rec. 709 source material. But a TV that's given content that takes advantage of this wider gamut would then be *accurate*—and far richer and more vibrant than normal HDTV.

How It Looks

All this theory is lovely, but how does HDR look? At this point, members of the consumer electronics press have actually seen HDR prototype displays from a number of companies, plus a rather extensive demo by Dolby that involved HDR-ready test content the company produced to feed their HDR prototype. The Dolby Vision prototype had 18,000 individually addressable RGB LED backlights and was placed side by side with a similar LCD TV that was set up to mimic a “regular” LCD. Anyone who saw the demo would readily agree there was significantly more punch and realism to the HDR image. And although the demo was in a darkened room, the image wasn't blindingly bright (which, I'm sure, will put many of you at ease). The bright highlights and extra color in the Dolby content certainly looked impressive: rich, vibrant reds and greens, yellows and blues. In a clip showing a field of red and yellow flowers against a blue and gray sky, for example, the flowers popped almost three-dimensionally off the screen, while the same scene on the regular display looked washed out and dull by comparison. Of course, I think a better test would be the Dolby Vision proto next to an OLED. Maybe we'll see that eventually.



● This chart and image, courtesy of Dolby, show the relative light levels of common real-world objects in candellas and nits, respectively.

Here and Now

While some parts of the technology are still in the hopeful/planning stages, a few versions of HDR are already here. Some companies, such as TCL and Sharp, showed Dolby Vision prototypes at CES 2014 (because, it's important to mention, Dolby has no intention of *making* TVs, but only wants to license its technology or its HDR specification to display manufacturers). Other companies have their own versions of HDR, or are at least attempting to push the contrast ratio in other ways.

For example, Sony's full-array local-dimming flagship HDTV, the X950B, has a feature dubbed X-tended Dynamic Range Pro. In a scene with both bright and dark elements, the TV takes the power that's saved from driving the dim LED zones behind the dark areas of the screen and sends that extra power to the LEDs behind the bright areas. Imagine a spotlight singer on a darkened stage. The LEDs behind the singer are driven harder than there normally would be energy for, because the LEDs behind the dark areas of the screen are running at a lower power level. This kind of power management is a key benefit of local dimming, but it's not always implemented like this. The edge-lit X900B has X-tended Dynamic Range (not Pro), which works similarly, but since there are fewer zones to work with, it's not as efficient, nor does it demonstrate as big a benefit. Sony claims X-tended Dynamic Range Pro boosts the “brightness range” by 3X. Of course, the X-tended Dynamic Range approach is designed to work with today's content, and as executed in current Sony sets, couldn't take advantage of encoded Dolby Vision content should it ever become available.

Vizio, meanwhile, demonstrated Dolby Vision at the January 2014 CES and is talking about HDR for their upcoming Reference R-Series LED LCDs. If they hit their claimed target of a 233-ft-L (800-nit) backlight with 384 zones, this is definitely HDR territory.

Samsung also previewed their version of HDR at CES 2014, using one of their \$85,000 85-inch LED LCDs. While HDR is not available in any products so far, I wouldn't be surprised if we hear more at CES 2015.

Even without dedicated content, these displays will create a far richer, “deeper” image than a display with a lower contrast ratio. If the HDR label catches on, you can be sure that manufacturers will start overusing and abusing it, just like they have with refresh rates, contrast-ratio numbers, and so on. In other words, we'll still have lots to test for our TV reviews, despite the labeling.

Front Projection? OLED?

Will we see HDR-style displays other than LED LCDs? Well...probably not. At least not with the current version of each TV technology. Plasma is effectively dead. On the front-projection side, we have DLP, LCOS, and LCD. These create an image using one or three small panels (under an inch). There just isn't a way to hyper-boost brightness in

specific areas of the image, as you can do on a flat-panel LCD. Front projectors use a single lamp to create the light (as opposed to the many individual LEDs of a flat panel). Even the models that employ LEDs and lasers still use those light sources to illuminate the entire chip at the same time, so individual pixel brightness is controlled strictly by the chip. Could there be a way to do it? Absolutely, but we haven't heard anything yet.

As far as OLED goes, the pixels in an OLED display vary in brightness depending on how much current you give them. So, in theory, you could give them even more current, and they'd be even brighter. In reality, it's not quite that simple. Not least are the power concerns, but there's also the old adage of "twice as bright, half as long." OLEDs don't age quite that simply, but their longevity is tied directly to their brightness. So an HDR OLED, again in theory, wouldn't last as long as one not tuned for such high light output. Since the contrast ratio on OLED is pretty mind-blowing as is, I don't think anyone's going to be missing HDR for OLED anytime soon. And who knows, maybe there will be a breakthrough that allows OLEDs to be twice as bright for half the power.

Bottom Line

Ultra HD and its 4K image are receiving a staggering amount of press coverage, even though resolution is only one aspect of picture quality. Improving resolution is great, but truly stretching the limits of contrast ratio would go much further in creating that "window into a

world" than simply increasing the pixel count.

High Dynamic Range, even in its most basic uber-local-dimming capacity, is a big step in the right direction. Pushing this even more is



what Dolby wants to do with Vision. Some TV manufacturers seem interested, but whether it will lead to actual televisions remains to be seen. And as for reaching the ideal of Dolby's 5,000-plus-ft-L prototype? Don't hold your breath. No company will sell a TV with 18,000 LEDs. Besides, that's a massive power draw, and even in the high end, manufacturers are conscious of their Energy Star ratings.

Still, to truly get the ultimate HDR display, we need HDR content, and that's a lot harder sell. Making every step in the process HDR-compatible—from the cameras to the editing to the transmission to the TVs themselves—is a lot bigger of a hurdle.



● Two similar scenes and their corresponding backlight pattern with Sony's full-array X-tended Dynamic Range Pro (above) and edge-lit X-tended Dynamic Range.



So, will we see Dolby Vision content anytime soon? Probably not. But then, we barely have any vanilla 4K content yet, either. There are few companies with the know-how and stature in the tech industry to make HDR happen, so if anyone can do it, it's Dolby.

We shall see. ♦



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A photograph of a high-end home theater. The room features a large, wide-screen television mounted on a wall with dark wood paneling and red fabric accents. The screen displays a scene with three men on a golf course, with the Taj Mahal visible in the background. In the foreground, there are several plush, dark red leather armchairs arranged in rows. The floor is covered with a patterned carpet in shades of orange and red. The ceiling is ornate, with a grid of recessed lighting and decorative woodwork. The overall atmosphere is one of luxury and comfort.

All-Star Upgrade

With a little help from Harman, retired Yankee closer **Mariano Rivera** brought his aging home theater into the big leagues.

By Rob Sabin
Photography by William Psolka



© 2014 William Psolka

Win or lose, when The Sandman was on the mound, it was always a great show.

There is, of course, another image of Mo, that of a man committed to his Christian faith, his family, and his community. As told in *The Closer*, his autobiography published last spring, Rivera grew up in a poor fishing village in Panama, a gifted young athlete who by a combination of luck, righteous living, and divine intervention, came to be the most prolific and successful relief pitcher in the history of baseball, finishing his career with 652 saves in 952 games finished, both records. Rivera was never shy during his playing years about crediting God for his on-field gifts and the opportunity to use them, and this devotion was again evident when, as he watched his career wind down, he began raising funds and made his own substantial contribution toward the multi-million-dollar renovation of a long-abandoned and crumbling 107-year-old church in New Rochelle, NY, just north of New York City. Rivera bought the structure for \$1 from the town in return for a promise to rebuild it. His wife, Clara, who had been leading ever-larger prayer groups at their nearby home, accepted the church's pastorate upon its reopening last March.

But before she and the congregants could move in, the church needed a sound system, and this is where our audio/video story begins. Rivera hooked up with the folks at Harman International, keepers of the Harman Kardon, JBL,

© 2014 William Psolka

Mention the name of retired Yankee relief pitcher Mariano Rivera, and it evokes the image of a lean, lanky stick of a man in pinstripes, standing on the mound at the Stadium in the late inning of a big game, focused like a laser on his catcher before winding up and throwing yet another blinding, physics-defying cutter. This is the Rivera who, in 19 Major League seasons, played in 13 All-Star Games and was instrumental in helping the Yanks win five World Series, delivering both pinpoint strikes and wild thrills to millions of New Yorkers watching from the stands and at home.





● Side and back surrounds are hidden behind cutouts in the fabric-covered acoustic panels.

Infinity, Mark Levinson, and Revel consumer brands, which donated a commercial JBL pro-audio system. With the church project well underway, Rivera set his sights on the renovation of his own home theater, working again with Harman's consultation and help.

Out With the Old

Mariano, Clara, and their three sons (ages 20, 17, and 11) inherited a dedicated 27 x 16 x 10-foot home theater room in the basement of their house when they moved in several years ago. The equipment was already dated by that time, but worse, neither the room nor the system had been particularly well designed from the get-go. Despite the somewhat expansive space (4,320 cubic feet), the audio was powered by only a Marantz A/V receiver driving an undersized Niles 7.1-channel in-wall surround system with exposed, flush-mounted speakers. There was but one 10-inch Speaker-Craft in-wall subwoofer and an aging Sharp projector delivering a washed-out image on the 110-inch, 16:9 aspect ratio screen. The components sat out in the open on recessed shelves, and there was no universal control system—just a pile of remotes that made operation quite cumbersome.

Architecturally, there was also serious room for improvement. The room had a beautiful coffered ceiling with uplighting and some nice mahogany trimwork, but the fabric panels that covered the

walls were filled with loose pillow-fill stuffing that didn't work particularly well as acoustic treatment and also felt strange to the touch. "I was unhappy with it," Rivera says. "The equipment wasn't the best, and the walls weren't built correctly. I just wasn't content with what was there." Robert Eng, owner of TechLife Media Systems, a custom integrator and Harman dealer out of Glen Head, NY, elaborates further: "Mariano was interested in a high-performance system, and, in our discussion, he also expressed an interest in enhancing the appearance of the room. He wanted to jazz it up and make it more elegant."

In the end, Eng and his team designed and executed an extensive rebuild whose only real claim to the prior system was the reuse of 15 red theater recliners. The new JBL Synthesis system includes an SDP-40HD surround processor and an S7165 seven-channel power amplifier rated to deliver 160 watts to each channel (into 8 ohms, with all channels driven). Three SAM3HA three-way LCR speakers, each featuring a 1-inch, horn-mounted titanium compression driver and

a pair of 6.5-inch midbass drivers, span the front of the theater, hidden in newly created compartments below the screen.

Two pair of THX Ultra-certified S4Ai in-wall surrounds, measuring approximately 24 x 14 x 4 inches in their sealed backboxes, grace the side and back walls, stealthily tucked behind cutouts in the freshly installed, fabric-covered 1-inch acoustic panels. Deep bass is handled by four HTPS-400 12-inch, sealed-box subwoofers, each powered by an internal 1,000-watt Class D amp. These are found inside the bases of the

● New matching cabinets and compartments house the front speakers and subwoofers.

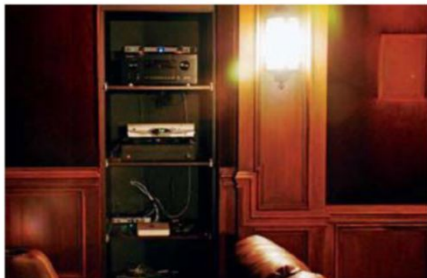


architectural columns added to each corner of the room, an enhancement that adds aesthetic interest while also accommodating the classic four-corner subwoofer placement for even distribution of bass. Crossovers and room EQ are handled by an outboard, two-piece SDEC4500 equalizer and bass-management system that provides 500 bands of parametric EQ. As is often the case with Synthesis installations, a JBL field engineer was brought in to fine-tune the system.

To replace the Sharp projector, TechLife recommended a top-line JVC Pro Reference Series RS65 (more familiar to *Sound & Vision* readers by its consumer model number, the DLA-X90R), and the original screen was swapped out for a 2.35:1 wide aspect ratio Screen Innovations Black Diamond Zero Edge (1.4 gain) measuring 140 inches diagonal. Video sources include a Marantz UD5007 Blu-ray player and Scientific Atlanta cable box. A Panamax M4315 Pro power center provides line conditioning and surge protection, and a Middle Atlantic rack with a smoked glass door replaced the original shelving to give the system a finished, professional look, not to mention proper ventilation.

Of course, TechLife added a one-touch, activity-driven control system: RTI's XP6 control processor, ZM-24 RF transceiver and T3V+ color touchscreen handheld remote

● **The “before” snapshots (top to bottom): the original screen wall; the rear wall with flush-mounted speakers; the equipment shelves. (Photos courtesy of TechLife Media Systems)**



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● **The new rack lends a professional, finished look.**

control. A Lutron RadioRA2 lighting control system for the theater lighting, easily integrated with the RTI controller, was also installed.

All Hands on Deck

Swapping in all this new gear was hardly a walk in the park. “The equipment design was pretty straightforward, but the toughest part was the construction of the room,” Eng says. The side walls of the existing room were gently curved as they approached the front corners, and their failure to meet squarely greatly complicated the building of the front subwoofer columns and speaker cabinetry. Matching the old molding to the new was an arduous task and involved intricate carpentry and finishing to make sure the new enhancements looked original. “Some of the molding even had to be custom made, as we couldn’t find any place that had the exact pattern,” said Eng. “We also had to completely rewire for electric, and also for speaker wires and subwoofer cables.”

Compounding these challenges was a fairly tight time frame for the renovation. TechLife began speaking with Rivera in October of 2012. He wanted the room completed by Christmas so he and the family could enjoy it for the holidays and the few months preceding his departure to Tampa, Florida, for his final season of spring training. The project was finished a week before the deadline, thanks in part to some help from Rivera himself, who thought nothing of occasionally rolling up his sleeves and helping out. “While we were working at Mariano’s home, he was there with us, pulling out nails, taking down the fabric walls, and getting his hands dirty with us,” Eng says. “He spent lots of time with us talking about rehabilitating his knee and what he was doing to stay

in shape. We shared sports stories and often discussed football.”

“Oh yeah—whatever I can do, I do,” says Rivera, who enjoys tinkering around the house and once thought in his youth he’d turn to auto mechanics if the baseball thing didn’t work out. “They [the TechLife crew] left one day and they had a bunch of nails in the walls from ripping out all the fabric that was there. So I went in there and by the time they came back, everything was gone. But Robert and all those guys at TechLife did a tremendous job.”

The end result was well worth the effort. “The difference in the quality is day and night,” says Rivera. “I was watching this movie about the Navy SEALs [*Act of Valor*], where they drop from the helicopter into the river and then they get ambushed. They’re being fired on, and they’re firing back from the river, and in this theater, you just feel like you’re in the scene with them.” There’s been a huge improvement in the bass performance, Rivera says—not surprising given the move from one subwoofer to four—and the JVC projector opened a new window on picture quality. Operating the theater couldn’t be simpler. “I had quite a few remotes—one for the projector, one for the cable... and now I have one remote for everything. So it’s easy.”

Rivera says his sons use the theater most frequently, both to hang out and to entertain their friends, though during New York’s cold winter months, the whole family can often be found downstairs enjoying a movie night watching an animated flick, perhaps an action movie (“but nothing too gory or with too much objectionable language”), or, more than likely, a Christian movie. “The movies we watch, we want to learn something from—we’re trying to capture something or have it teach us something,” he says. Sports? The theater might get fired up for a big game like the Super Bowl, but what baseball he watches—mostly the Yankees—usually gets viewed upstairs on a new 65-inch Ultra HDTV. These days, Rivera says, he’s so busy doing charity work for the church and community that there’s not a lot of time left for TV or much else anyway. “I went from baseball right into it, but I love it—that’s what I wanted to do, so I don’t regret one bit of it,” he suggests. Reflecting on his amazing run in the majors, he says, “Yeah, it was great, but that was then, and now I’m moving toward my other chapter. Life—that’s bigger than baseball.” ♦

● **A new RTI controller and integrated Lutron RadioRA2 lighting system were installed.**



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Ace of Bases

Three TV Speaker Stands That Can Pump Up Your Sound

By Michael Trei



IT'S TOUGH TO BE an audiophile these days. In the ongoing push by those pesky spouses and decorators to make our audio systems increasingly basic, simple, and invisible, some of us have felt the tug to hang our HDTVs on the wall and step down from a full-blown 5.1 surround sound home theater rig to a nice, slender soundbar. More often than not, that means having a subwoofer, typically supplied with the soundbar, just to fill in the bass, which inevitably goes missing during that slimming process. But, depending on how well the sub is integrated and its position in the room, that can often

lead to other issues, including localization of deep male voices at the sub and possibly a gap in upper-bass frequency response that becomes most noticeable when playing music.

However, there is another option to the classic, bass-shy soundbar. It turns out that while many of us will point to the wafer-thin form factor of the latest TVs as a style-driven selling feature, few of us ever get around to actually hanging that lean new screen on the wall. Typically, the TV comes out of its box and just sits there on its pedestal. When that's the case, you can consider a soundbase platform, an all-in-one powered speaker that leverages your HDTV's need to rest



on something fairly wide and deep. The payoff is that with that extra 10 to 15 inches of depth to play with, a soundbase can have a decent-sized enclosure that delivers the kind of bass that no prissy little soundbar can even dream of on its own—bass extension that should be well under the sensitive 100-to-175-hertz region

where many soundbars cross over to their subwoofer. And with no subwoofer—wireless or otherwise—they're even easier to install than the average soundbar. To get some idea of how the latest soundbase offerings perform, we put three new models, priced from \$250 to \$600, through their paces.

● A soundbase can be an attractive all-in-one option to support a TV or to slip into a shelf right below.



Solid Foundation

By Michael Trei

Pioneer SP-SB03 Speaker Base

PRICE \$350

OVER THE LAST FEW YEARS, Pioneer's chief speaker designer Andrew Jones has become kind of a rock star in budget audio circles. Unlike some other companies that simply get a design committee to slap something together for their low-cost gear, Pioneer with Jones at the helm spends months tweaking and refining even the most modest speakers. At the other end of the scale, Jones also designs state-of-the-art speakers for Pioneer's high-end TAD division, including the \$80,000 Reference One, so the man clearly knows his way around a woofer cone.

Here Jones has turned his talents toward creating the SP-SB03, Pioneer's first TV soundbase. The basic feature set is pretty similar to the company's SP-SB23W soundbar, but it moves that model's separate subwoofer into the main speaker to create a single-box solution. The SP-SB03 is essentially a pair of three-way powered speakers in one cabinet and is the only soundbase of the three we looked at that uses separate dedicated tweeters to handle the high frequencies. Each of the six drivers also gets its own amplifier fed by an active low-level crossover, an approach normally seen in expensive professional speakers.

The purposeful-looking SP-SB03 has a composite wood cabinet with a perforated metal grille on the front to protect the drivers. Pioneer sets a weight limit of 150 pounds for the TV you can put on it and states that the stand should fit on the base with at least 1 extra inch all around. A fifth foot

AT A GLANCE

+ Plus

- Clear, transparent sound
- Well-thought-out feature set

- Minus

- Minimal display information
- Credit-card membrane remote

at the center of the base provides plenty of support for heavy TVs.

Input options are pretty basic, with just one stereo RCA analog input, one optical digital input, and Bluetooth. The USB jack tucked away on the back panel is strictly for service use. As with the Vizio, the SP-SB03 directly decodes Dolby Digital and PCM digital signals, but not DTS, so you may have to set your player accordingly. The lack of a second digital input may also be an issue in some installations where you're not using the TV as your switching component.

The SP-SB03's remote is a small credit-card-style job with those nasty blister bump buttons, though Pioneer likely assumes you'll use the unit's learning mode to train it to respond to commands from your existing cable box, TV, or universal remote. Instead of traditional bass and treble controls, you get a level control for the bass drivers and three preset equalization curves called Music, Movies, and Dialog. There's also a simulated surround circuit called Expansion, available only in the Movie mode.

Input and listening mode selections are indicated on the front



panel by colored LED indicators. It's hard to read the tiny labels from across a room, but you'll quickly learn that a green light indicates Movie mode, while red is for Music mode. The Dialog mode (blue) is for late-night listening when you don't want to disturb people; it appeared to simply turn the woofers way down.



With a total of 168 watts split between the six drivers, the SP-SB03 does a pretty good job of rattling the windows with big action movies. It can't quite turn your living room into Studio 54 the way the Vizio can, but the priority here is clearly on quality over sheer quantity of sound.

The helicopter crash and lodge explosion scene in *Skyfall* maxed out a couple of decibels lower in volume than with the Vizio, but it was still substantially louder than I would normally play movies at home. More important, there was a greater sense of clarity and coherence that made listening to the Pioneer the least fatiguing and most enjoyable of the three soundbases. Dialogue was clear and articulate, without any boxy colorations.

In the Movie mode, the Pioneer pumped up the bass a bit from neutral. This worked quite well for big action scenes, although I found I still generally preferred the balance of the Music mode even with movies. The Expansion option did a pretty decent job of opening out the sound from

RATING

Pioneer SP-SB03 Speaker Base

Performance ★★★★★
Features ★★★★★
Ergonomics ★★★★★
Value ★★★★★

PIONEER SP-SB03 SPEAKER BASE

PRICE: \$350

Pioneer Electronics •
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SPECS

4 in cone subwoofer (2), 3 in cone woofer (2), 1 in soft dome tweeter (2); 28 watts x 6; 28 x 4.75 x 16 in (WxHxD); 21 lb •
Inputs: RCA stereo analog (1), optical digital (1), Bluetooth

THE VERDICT

Pioneer delivers a soundbase that puts good sound ahead of bells and whistles or sheer volume.



the box, so it's a pity it was only available in Movie mode.

As you might expect given its designer, the SP-SB03 excelled with music. Sure, you're never going to get much of a stereo soundstage when the left and right speakers are just a couple of feet apart, but the Pioneer's ability to deliver transparent and natural-sounding music with excellent tonality won me over. On the Charles Lloyd track *Rabo De Nube*, there was real weight and definition behind the double bass line, and drummer Billy Hart's cymbals had a clarity and vibrancy of tonal color that the other soundbases couldn't match.



● The Pioneer houses six drivers.

As you might expect given its designer, the SP-SB03 excelled with music.

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Stand Small

By Michael Trei

Vizio Sound Stand S2121w-D50

PRICE \$250

WITH JUST A PAIR OF 2.75-INCH full-range drivers supplemented by a single 5.25-inch "subwoofer," the Vizio Sound Stand has the most basic driver complement of the three soundbases under review. No amplifier power rating is specified, although, as you'll read, it's clear that the Sound Stand has been carefully tweaked to deliver the maximum possible volume.

Designed to support TVs sized up to 55 inches and weighing up to 60 pounds, the Sound Stand's hexagonal shape had no problem handling my aging 47-inch plasma TV (which is considerably heavier than a like-size LCD model). Inputs include both RCA and 3.5mm stereo analog connections, in addition to both optical and coaxial digital inputs and Bluetooth. A USB port can play uncompressed audio WAV files from a flash memory stick.

While we're talking about digital formats, it's useful to know that while the Sound Stand will happily decode Dolby Digital and PCM signals, it can't handle a native DTS bitstream—something true for all three units under test. For Blu-ray Discs with DTS soundtracks, you can set up your player's menu so that DTS is converted to PCM inside the machine.

A nice remote with real clickable buttons (no membrane here) lets you control various features including track skip on most Bluetooth-paired music sources, although you'll have to decipher the Sound Stand's display, which consists of a row of 12 white LEDs that flash in different patterns. Along with bass and treble

AT A GLANCE

+ Plus

- Plays very loud
- Lots of hookup options
- Good remote

- Minus

- Sounds congested when pushed hard
- Cryptic display
- Minimal stereo separation

controls, the remote has switches for DTS's TruVolume volume-leveling circuit, and DTS TruSurround, which provides a quasi-surround effect to help open up the sound despite the narrow spacing between the left- and right-channel drivers.

Auditioning the Sound Stand took place in two stages, because halfway through the process, Vizio released a firmware update that clearly affected the sonic performance. If you already have a Sound Stand or buy one that's been sitting around on a retailer's shelf, you should update to the latest firmware, which definitely offers improved tonal balance. Prior to the update, I needed to crank up the treble control to +3 and cut the bass down to its minimum setting to get the most natural sound. The revised firmware fixed the overblown bass, though the treble was now too hot, and I found that I preferred to cut it by a couple of notches.

While the Sound Stand was the smallest and least expensive of the three, it didn't wimp out. Like a baby that can wail far louder than its small



size would suggest, the Sound Stand can really make its presence known. Vizio claims the Sound Stand can hit 101-dB peaks, which is insanely loud; in my room from about 9 feet away, a more realistic 94 dB was about the maximum limit. Still, this is substantially

louder than the other two soundbases could muster, despite them being considerably larger than the Vizio.

The DTS TruVolume feature may be useful for late-night listening, but it tended to make things a bit too forward and aggressive sounding. Similarly, I found that while DTS



TruSurround did open up the soundstage somewhat, it came at the cost of added brightness and a loss of body in the midrange. I left both off for most of my listening.

With just a single pair of full-range drivers handling everything except the deep bass, the Vizio needed to work overtime to deliver those high sound levels. When the going gets tough, such as when the helicopter crashes into the lodge near the end of *Skyfall*, the Sound Stand simply reaches a point where it no longer gets any louder. Because the maximum output of the drivers is carefully held in check by digital signal processing, obvious distortion isn't really a problem. But the resulting loss of dynamics resulted in a somewhat congested and boxy sound.

Music sources such as Buddy Guy's "Coming for You" from his *Live at Legends* CD showed similar limitations, with a loss of midrange energy balanced out by a mild midbass hump

RATING

Vizio Sound Stand S2121w-D50

Performance ★★★★★
Features ★★★★★
Ergonomics ★★★★★
Value ★★★★★

VIZIO SOUND STAND S2121W-D50
PRICE: \$250

Vizio • (877) 698-4946 • vizio.com

SPECS

5.25 in cone subwoofer, 2.75 in full range driver (2); 21 x 3 x 15.5 in (WxHxD); 10 lb

• **Inputs:** Coaxial digital (1), optical digital (1), stereo RCA (1), stereo 3.5mm (1), USB (1), Bluetooth

THE VERDICT

Vizio's Sound Stand plays remarkably loud for such a small and affordable soundbase, but its sound lacks the finesse of even the company's own budget soundbars.



and lack of smoothness in the lower treble region. At lower volume, it was OK, but the coarseness and thickness crept back in as the volume went up. Not surprisingly, the closely spaced drivers also delivered little in the way of stereo separation, and while the bass was fairly punchy and tuneful as far as it went, it was clear that the speaker was somewhat strained.

Vizio makes several excellent soundbars, so the Sound Stand's congested and muddled sound was surprising and disappointing. Compared with your TV speakers, the Sound Stand will certainly play louder and add missing bass. But if you want more refined sound quality near this price point, I would consider one of the company's soundbars or just keep looking.

Editor's Note: Vizio informed us at press time that they would be revising the Sound Stand's firmware again in an effort to better optimize its sonic performance. Check our Web version of this review for any updates.—RS



● The Vizio Sound Stand has a unique hexagonal shape.

Compared with your TV speakers, the Sound Stand will play louder and add missing bass.

DNA:HELIX

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Bigger & Better

By Michael Trei

ZVOX SoundBase.670

PRICE \$500

ZVOX CREATED THE TV SOUND-base category over a decade ago, but they've not been sitting on their heels for the last ten years. While other companies have only just jumped on the bandwagon with a soundbase of their own, ZVOX has continued to expand its offerings and up its game on sound quality and now has eight different soundbase models available.

The SoundBase.670 is the middle of three models of different sizes in ZVOX's new top-of-the-line Platinum Series. The .670 accepts sets up to 70 inches and has five 2x3-inch front-firing, long-throw cones and three 5.25-inch down-firing woofers in a ported MDF cabinet; they're driven here by a combined 105 watts of power. The smaller .570 (\$400) handles up to 60-inch TVs and uses five 2-inch speakers and a single 5.25-inch woofer, while the big .770 (\$700) can support a giant 80-inch set and offers a driver complement similar to the .670. So even though the SoundBase.670 isn't the biggest model in ZVOX's lineup, it is easily the largest of the three soundbases in this survey.

The .670 is also big on connectivity, with two RCA analog inputs on the back plus one 3.5mm analog input on the front panel, one coaxial

AT A GLANCE

+ Plus

- Detailed, focused sound with tuneful bass
- Excellent connectivity and feature set
- Nice display

- Minus

- Can't disable surround mode
- Credit card remote

and two optical digital inputs, and wireless Bluetooth capability with aptX codec compatibility. There's also a stereo analog output, plus a subwoofer output just in case you want to add even more bass to the system. There's a decoder for Dolby Digital signals but not for DTS, so you may need to set your disc player to output PCM digital when playing some Blu-ray Discs.

Operating the SoundBase.670's various features is relatively easy, because instead of trying to decipher what's happening from a bunch of flashing LED indicators, you get a four-segment alphanumeric display that spells out exactly what you're controlling. They even made the display orange so it appears much sharper from a distance than those fuzzy-looking blue displays that seem to be the norm these days. Sadly, the remote is another one of those credit-card-sized jobs with the blister bump buttons, though the .670 can learn commands from your existing remote.

Along with volume, mute, and input selection, the remote lets you



control bass and treble in several steps. There's also a dialogue enhancer called AccuVoice that really pumps up the midrange for those with hearing disabilities, as well as a volume leveler

designed to reduce the volume swings between program content and commercials.

ZVOX's proprietary surround mode is called PhaseCue and has been found in their soundbases since the very beginning. On the SoundBase.670 there are three levels of operation, though I would have liked having a way to turn the surround mode completely off, other than by switching to the midrange-boosting AccuVoice setting.

Choosing the best surround setting depends a lot on the source material. Most of the time, I settled on SD2 for music and regular television watching and SD3 for big action movies. I found that SD1 sounded too much like mono most of the time, while the other two settings added a pleasing sense of spaciousness and clarity. AccuVoice boosted the midrange too much for my taste and probably for most listeners, although it clearly did help voices cut through when they were buried in a noisy sound mix, such as during a sports broadcast.

Going back to the helicopter crash and lodge explosion scene in *Skyfall*, the SoundBase.670 had especially impressive bass. It wasn't so much in how loud or deep it was, but the definition and tightness made it easy to separate the chop of the helicopter rotor from the roar of each explosion

RATING

ZVOX SoundBase.670

Performance ★★★★★
Features ★★★★★
Ergonomics ★★★★★
Value ★★★★★

ZVOX SOUNDBASE.670

PRICE: \$500

ZVOX • (866) 367-9869 •
zvoxaudio.com

SPECS

5.25 in cone subwoofer (3), 3x2 in rectangular cone full range driver (5); 105 watts; 36 x 3.5 x 16.5 in (WxHxD); 26 lb • **Inputs:** Coaxial digital (1), optical digital (2), RCA stereo analog (2), 3.5mm stereo analog (1), Bluetooth • **Outputs:** RCA subwoofer (1), 3.5mm stereo analog (1)

THE VERDICT

The SoundBase.670 proved itself a great all-rounder that's at its best for movies and regular TV watching.

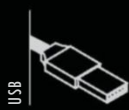
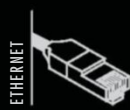


and the swell of the strings in the orchestral score. The ZVOX couldn't play quite as loudly as the Vizio or even the Pioneer, but at full-tilt boogie, it never became ragged or distorted; it simply stopped getting louder.

Loud, punchy music like the Buddy Guy "Coming for You" track was also tuneful and dynamic, although ultimately the Pioneer delivered a more direct and engaging sound with slightly greater transparency. I appreciated the ZVOX's ability to separate out the dual bass lines on Lou Reed's "Walk on the Wild Side," though it gave up a bit of the detail in the drummer's brushwork. All told, though, the ZVOX was an all-around great performer and the most fully featured soundbase in this roundup. ♦



WIRELESS TECHNOLOGY MEETS
THE MAGIC OF MARTINLOGAN



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Crescendo™

PREMIUM WIRELESS MUSIC SYSTEM

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Truth in Sound.

Make Room for HEOS

By Darryl Wilkinson

Denon HEOS Wireless Multiroom Sound System

PRICE \$2,148
as reviewed

WHEN I ASKED THE FOLKS AT Denon why they felt the need to develop a multiroom, streaming music system, this was the answer they gave: "Probably for similar reasons why we developed the LP turntable and didn't continue to manufacture gramophones." That wasn't quite the answer I was looking for, but it was an interesting way of putting a tangible perspective on the past 100-plus years that Denon has been involved in the audio industry.

AT A GLANCE



Plus

- Stellar audio performance
- Simple, intuitive app



Minus

- No desktop controller
- Fewer streaming services than Sonos

In this day and age, it's the rare person who sits at home enjoying selections from his or her collection of bulky spinning cylinders; streaming songs is what's popular now. In

fact, our collective propensity for listening to audio from the Internet or music stored on NAS drives and computers has resulted in wireless speakers of various kinds becoming the product du jour of nearly every audio manufacturer on the planet. So the question I really should have asked was how Denon thought they could build a system that would rise above the flood of streaming music speakers and systems on the market—and, specifically, how in the world Denon thought they could compete head to head with the Goliath of streaming music systems, Sonos.

Denon and Goliath

Certainly, Denon has a 100-year leg up on a lot of other companies. But sometimes, a decades-long legacy can be a hindrance rather than a

THE VERDICT

It's not the first wireless multiroom sound system, but it certainly ranks among the best.

help—especially when it comes to digital technology. Since I didn't get an answer to the question I should have asked, the only thing I can do is turn to the product itself for explanation. In the case of the new HEOS wireless multiroom sound system, it's obvious that Denon decided to take on Goliath not by slinging stones but by following Sonos' well-trodden and highly successful path.

The HEOS ecosystem consists of five products. You can start a system with any single one of them. Three of them—the HEOS 3 (\$300), HEOS 5 (\$400), and HEOS 7 (\$600)—are all-in-one, powered speaker systems. The HEOS Link (\$349) is a small stereo preamp that's designed to connect a dedicated multichannel A/V or two-channel music system to the network. The HEOS Amp (\$499) is essentially a stereo (100 watts x 2) integrated amplifier (with HEOS connectivity) that can be used with most any passive speakers. Anyone familiar with the Sonos product line will immediately notice the similarities. While some people might think the model assortment is a blatant ripoff, it's actually an incredibly logical collection of products—as Sonos has proven very well over the years. (There's also a sixth HEOS product, the \$100 HEOS Extend, a Wi-Fi repeater that extends the range



● The HEOS line includes speakers of three different sizes, plus a preamp and amp (pictured here).

RATING

Denon HEOS Amp

Performance ★★★★★

Features ★★★★★

Ergonomics ★★★★★

Value ★★★★★

MULTIROOM SYSTEM

DENON HEOS WIRELESS MULTIROOM SOUND SYSTEM

PRICE: \$2,148 (HEOS 3, \$300; HEOS 5, \$400; HEOS 7, \$600; HEOS Amp, \$499; HEOS Link, \$349)

Denon • (855) 499-2820 • HEOSbyDenon.com

of your wireless network. Since it's not technically an audio product, I didn't ask to test one out.)

Quite a number of basic aspects are common to all of the audio products in the HEOS ecosystem. For starters, despite the fact that the Denon folks refer to the system as a "wireless multiroom sound system," all of the HEOS components can be hooked up to your home network non-wirelessly using Ethernet connections. Furthermore, there are no specific requirements or proprietary protocols when it comes to connectivity. HEOS uses your home's standard Wi-Fi (dual-band 802.11n) or Ethernet network and can stream music files from DLNA-compliant devices, such as NAS drives or computers. It does not support Apple's AirPlay or DTS's Play-Fi wireless protocols; nor are any of the HEOS models Bluetooth enabled. A USB port on the back of each component allows for playback of files stored on portable drives, which then become available to any component in the system.

Each HEOS component has at least one Aux input—so you can take a Bluetooth, AirPlay, or Play-Fi receiver (or even one of them newfangled Denon DP-300F turntables with a built-in phono preamp) and add it to any HEOS device—and audio from that input can be streamed to any other HEOS model. Systems can range from a

single HEOS component up to as many as 32 devices. All the speaker systems have up/down volume controls and mute buttons for when your smart device

isn't handy, and according to Denon, HEOS will be ready for full integration with a variety of third-party controllers (most likely to include models from URC, Control4, and Crestron) by the end of 2014.

The App's the Thing

Regardless of which HEOS product you add to your system or how many, everything is controlled via the free HEOS app (available in both Android and iOS versions). I've said many times before that the remote or app used to control a system—audio or home automation—has to be intuitive and convenient to operate, or people won't use the system. The absolutely stellar nature of the Sonos app is a huge reason for that company's ongoing success. Fortunately, the Denon folks recognized this; the HEOS app is, if not great, about as good as it can get.

It's built on a foundation of three main pages or "tabs"—Rooms, Music, and Now Playing—which are selected from an always-visible menu bar across the bottom of the screen. Unsurprisingly, Rooms is where you select the room(s) in which you want music to play. You can group rooms on this page simply by dragging and dropping the icon for one room onto another room or group of rooms. Likewise, to remove a room, you drag it out of the group's rectangle and drop it in its own place on the screen. Similar to the Sonos app, room volumes can be changed globally as a group or individually within the



● Every HEOS component has Aux and USB inputs to add devices to your system.

group. The listings on the main screen also indicate each room's music source and playback status (playing, paused, or stopped).

After selecting a room or rooms, you navigate to the Music page to choose what you want to listen to. During my evaluation, HEOS was offering access to Pandora, TuneIn, Spotify (via Spotify Connect), and Rhapsody. They've since added Napster and Deezer (worldwide, but coming soon to the U.S.). At press time, they were said to be launching with Sirius XM and iHeart Radio, and two more unnamed services were expected to be on board by the time you read this. If my math is correct, that makes for a grand total of eight services. The last time I counted, Sonos offered access to 37 music services (some subscription free, some requiring a premium subscription, and some available only as part of the Sonos Beta program). Denon told me that, to close the gap, they intend to add two more

streaming services per quarter over the next few years "based on popularity and fit with our HEOS customer." For now, they feel they've got most people covered with the bigger services they do offer.

The Now Playing screen tells you what's playing in the room or grouping listed at the top of the page. You can change the volume and track, see cover art, check the playlist, and create favorites from this page—unless you're listening to Spotify, in which case, thanks to the HEOS app's Spotify Connect integration, you'll be switched to the Spotify app on your phone or tablet.

Moving among the tabs to, say, group different speakers or make a fresh music selection, is a simple matter, and the app remembers what the user was doing in each of the three tabs. So, for example, if you're browsing a long playlist and need to quickly remove a room from your music group because the phone rang, you'll find yourself in the same spot when you return to the Music



TEST REPORT

● All HEOS components, including the HEOS Link preamp, connect via W-Fi or wired over Ethernet.

RATING

Denon HEOS Link Stereo Preamplifier
Performance ★★★★★
Features ★★★★★
Ergonomics ★★★★★
Value ★★★★★



SPECS

HEOS 3: Full-range driver (2), port (1), Class D amp (2); 10.7 x 5.1 x 6.5 in (WxHxD); 4.2 lb • **HEOS 5:** Tweeter (2), woofer (2), passive radiator (1), Class D amp (4); 11.6 x 8.2 x 6.5 in (WxHxD); 6.6 lb • **HEOS 7:** Tweeter (2), midrange driver (2), woofer (1), passive radiator (2), Class D amp (5); 3.5mm analog stereo output (headphone); 18.9 x 8 x 6.5 in (WxHxD); 9 lb • **Speaker Inputs (All Models):** Aux (3.5mm analog audio), USB • **HEOS Amp:** 2 x 100 watts (Class D) • **Inputs:** Analog audio (3.5 mm, RCA), optical digital, USB • **Outputs:** Subwoofer (RCA); 8.7 x 3.7 x 8.5 in (WxHxD); 6.2 lb • **HEOS Link: Inputs:** analog audio (3.5mm, RCA), optical digital, USB • **Outputs:** Analog stereo audio (RCA), subwoofer (RCA), optical digital, coaxial digital, 3.5mm IR, 12-volt trigger; 6.1 x 2.9 x 5.9 in (WxHxD); 2.9 lb • **System Audio Formats:** MP3, WMA, AAC (MPEG-4), FLAC, WAV; 32 kHz, 44.1 kHz, 48 kHz • **Music Services Supported:** Rhapsody, Pandora, Spotify, Tunes • **Apps (free):** iOS, Android • **Other:** RJ-45, 802.11 a/b/g/n (2.4 GHz/5 GHz), DLNA-compliant



page. There's also a cool "Pinch-to-Party" grouping function in the Rooms tab that lets you tap a room that's playing music you'd like to share, then use a finger-pinch on the screen to automatically send it to all zones. You reverse it with a zoom gesture.

At present, Denon doesn't offer any sort of desktop client for system control. Controllers for both PC and Mac are said to be under development.

Setup Time Is Shorter Than This Paragraph

About the only way that Denon could make setting up the system any easier is if they sent a white-gloved, tuxedo-clad technician to unbox the gear and plug it in for you. Connecting a HEOS component to your Wi-Fi network is ridiculously easy and involves plugging one end of the included 3.5mm cable into the headphone jack of your smart device and the other end into the Aux input on the HEOS speaker or amp. After a couple of taps on your phone's or tablet's screen, all of the Wi-Fi network's setup parameters are transferred, and the HEOS component is ready to go. Adding a speaker system using Ethernet requires plugging in the Ethernet cable—and that's about it.

Hearing the HEOS

The smallest of the speaker systems, the HEOS 3, differs from the other two in more than just size, with the most important distinction being that two HEOS 3s can be configured to work as a stereo pair. Denon claims to have exceptional synchronization among its speakers, which they point out could benefit stereo imaging. The HEOS 3 is also designed to be used horizontally or vertically. Since the orientation has a big effect on the sound, there's a setting in the HEOS app to select the proper equalization curve for horizontal or vertical operation. Another feature exclusive to the HEOS 3 is a threaded insert on the back for use with a wall-mount bracket or speaker stand. Two full-range drivers and a two-channel Class D amp live inside the cabinet, and there's a large downward-sloping port on the back.

The HEOS 3 puts out a surprising amount of bass, regardless of its orientation. There's a lot of output from the rear-firing port. When oriented vertically, the HEOS 3 has a somewhat small and narrow soundstage, but there's no doubt it was quite good for a \$300 stereo speaker system. The speaker broke out from quite good to really excellent when placed horizontally. With the

correct EQ setting, the horizontal HEOS 3 blossomed with a much wider, bigger soundfield. During the beginning of Gwyneth Herbert's "So Worn Out" (*Ten Lives*), the placement of instruments was slightly muddled—but Ms. Herbert's voice was clean and clear. One of the notes I made while listening to "I Love the

Life I Live" from the Kenny Wayne Shepherd Band's excellent *Goin'*

RATING

Denon HEOS 3 Speaker
Performance ★★★★★
Features ★★★★★
Ergonomics ★★★★★
Value ★★★★★



● The HEOS 3 has a threaded insert on its back panel for wall-mounting.

HEOS can stand tall next to Sonos.



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TEST REPORT

● The HEOS 5 has a built-in, hidden handle on its back.

RATING

Denon HEOS 5 Speaker
Performance ★★★★★
Features ★★★★★
Ergonomics ★★★★★
Value ★★★★★



Home was how balanced the vocals were without being placed too forward or too far back. The overall sound of the HEOS 3 was big—much bigger than what you'd expect from such a diminutive speaker.

The HEOS 5 includes four active drivers (two tweeters with two woofers) plus a passive radiator. The middle model of the three HEOS speakers ups the power ante over the HEOS 3 by using four dedicated Class D amps. It's a compact speaker, weighing only 6.6 pounds, and it has a convenient, built-in hidden handle on the back near the apex of the sloping front and rear sides. I was immediately struck by the deeper bass extension and more natural character of the HEOS 5, along with the system's smoother-sounding overall response. Besides the more convincing bass, there was an added throaty, visceral impact to the vocals on the Shepherd track. I expected the soundstage to be wider than the HEOS 3's, and it was noticeably so with the John Butler Trio's "Funky Tonight" (*Grand National*). The guitar strings also had more life and snap. As with the smaller HEOS speaker, placing the HEOS 5 too close to a wall might overemphasize the bass. Each HEOS component has individual bass and treble adjustments, so you can work with the settings to help make amends for placement issues.

The big-daddy speaker, the HEOS 7, is long and low, with the same inward-sloping front and back styling of the HEOS 5 but without a built-in handle. There's something about the proportions and cosmetics of the



HEOS 7 that screams "performance" at the top of its lungs, even before you hear the five active drivers (two tweeters, two mids, one woofer) and two passive radiators. The HEOS 7 is powerful, with a tremendous soundstage. In fact, there's little about this speaker to find fault in. On the Herbert track, I noticed a slight hot spot when I sat dead center in front of the speaker, but it was minor, and I found it acceptable in the context of the width and liveliness of the wall of sound created by the HEOS 7 in my 12 x 24-foot room. Interestingly, the HEOS 7 is the only model that includes a headphone output.

The HEOS Amp and HEOS Link are basically cut from the same cloth but use slightly different patterns. Both models include analog stereo and optical digital audio inputs and subwoofer outputs. The Link adds both optical and coaxial digital audio outputs, as well as a 12-volt trigger output and an IR emitter output. Being approximately 9 and 6 inches wide (respectively), neither the Amp nor the Link is a full-size, stackable component. In the case of the Amp and its stout 100 watts x 2 amplifier, stackability isn't likely to be an issue. The preamp-only Link, on the other hand, will need to go on a shelf of its own in your A/V rack if you're incorporating it into a bigger system.

Without a doubt, I was amazed at the testicular fortitude of the HEOS Amp and its refusal to give up no matter how hard I drove it with several speakers. What impressed me most about this little-amp-that-can was how well it performed when driving a pair of large Legacy Harmony in-walls. Not only was the sound



warm and alive with dynamic presence, but the bass output was strong enough that I never felt the need to use the HEOS Amp's subwoofer preamp

output. As for the HEOS Link, when I hooked it up as a streaming audio source to an Anthem AVM 50v processor and an Anthem MCA 50 amplifier, it performed impeccably.

Conclusion

Denon's HEOS system is simply terrific and terrifically simple. As big a fan I am of everything that Sonos has done over the years, I can honestly say that HEOS is the first system *in toto* that can stand tall next to the Goliathan Sonos and be considered a worthy contender. HEOS has a long way to go in terms of adding streaming services, and only time will tell if HEOS can match Sonos

when it comes to amazing customer service. But for the money, each HEOS component is a spectacular achievement in the multiroom, streaming audio realm. I'm not saying everyone should ditch their Sonos systems and buy a bunch of HEOS gear. The important thing here is that if you're looking for a streaming system with refined cosmetics, an extensive set of inputs, and superb sound, you should give HEOS serious consideration. Sonos is still the king, but HEOS is making a shiny crown of its own. ♦

RATING

Denon HEOS 7 Speaker
Performance ★★★★★
Features ★★★★★
Ergonomics ★★★★★
Value ★★★★★



● The HEOS 7 flagship speaker is the only model that includes a headphone output.

The HEOS system is simply terrific and terrifically simple.

BRYSTON



HEAR IT ALL NOT A BIT MORE NOT A BIT LESS

With diverse musical preferences, you can't be satisfied with equipment biased towards a certain sound. Bryston designs every model to be as accurate and neutral as possible so you hear every detail on your recordings. Our BDP-2 and new BDP-1USB are bit-perfect, meaning that they play music precisely as recorded without unnecessary upsampling or conversion. They also feature DSD playback over USB.

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www.bryston.com

Towers of Kaboom

By Daniel Kumin

Definitive Technology BP-8060ST Speaker System

PRICE \$5,693

DEFINITIVE TECHNOLOGY'S

BP-8060ST has remained a highlight of the Baltimore-area maker's lineup for several years—a dog's age in the new-and-improved, series-II world of high-end loudspeakers. The longevity suggests that Definitive considers this slim “power tower” a fully evolved design, and indeed it's hard to argue the point.

Not even 6 inches wide, each obelisk contains six active drivers (including a rear-facing two-way that delivers the company's signature bipolar radiation pattern), two 10-inch passive radiators, and onboard amplification for the single driven 10-inch woofer. It's a tour de force of design and packaging efficiency.

The bipolar thing is central to Definitive's design philosophy. The rear-firing midrange and tweeter accompany a three-driver, forward-firing D'Appolito array; the rear drivers are electrically in phase with the front drivers (but several decibels lower in level) to give the BP-8060ST its bipolar character. Bipoles like this speaker tend to contribute a subtly more spacious, or perhaps just “bigger” sonic character

AT A GLANCE

+ Plus

- **Awesome potential for clean loudness**
- **Impressive tonal fidelity and finesse**
- **No subwoofer required**
- **Atmos!**

- Minus

- **Requires generous spacing and AC power**
- **Connectivity is a bit complex**

with an extended sense of soundstage depth, to just about everything you play through them. Simultaneously, the bipole advantage improves such worthwhile technical aspects as more even polar and power responses, even in the forward hemisphere, enhancing real-world palpability in actual rooms. (A little history: Back in 1976, Peter Snell of the late, lamented Snell Acoustics began utilizing this approach, at the higher frequencies where beaming is most problematic, by mounting a rear-facing second tweeter.)

I first reviewed the BP-8060ST for *Sound & Vision* upon its initial release back in 2011, and Shane Buettner, then editor of the current *Sound & Vision*'s predecessor *Home Theater*, reviewed its big brother, the BP-8080ST, around the same time (both reviews are available at soundandvision.com). Still, what's new and notable about the BP-8060ST today, and makes it worth taking a fresh

listen, is that it's now being touted as one of the very first loudspeakers to offer upgradability for Dolby Atmos, the new “object-oriented” surround

RATING

Definitive Technology BP-8060ST Speaker System

Performance ★★★★★

Build Quality ★★★★★

Value ★★★★★

protocol that includes an overhead height layer. We've been covering Atmos regularly, including a short feature discussing its performance with this very speaker system (see “Atmos, Here” in the December 2014 issue and at soundandvision.com). But a brief recap is still probably in order.

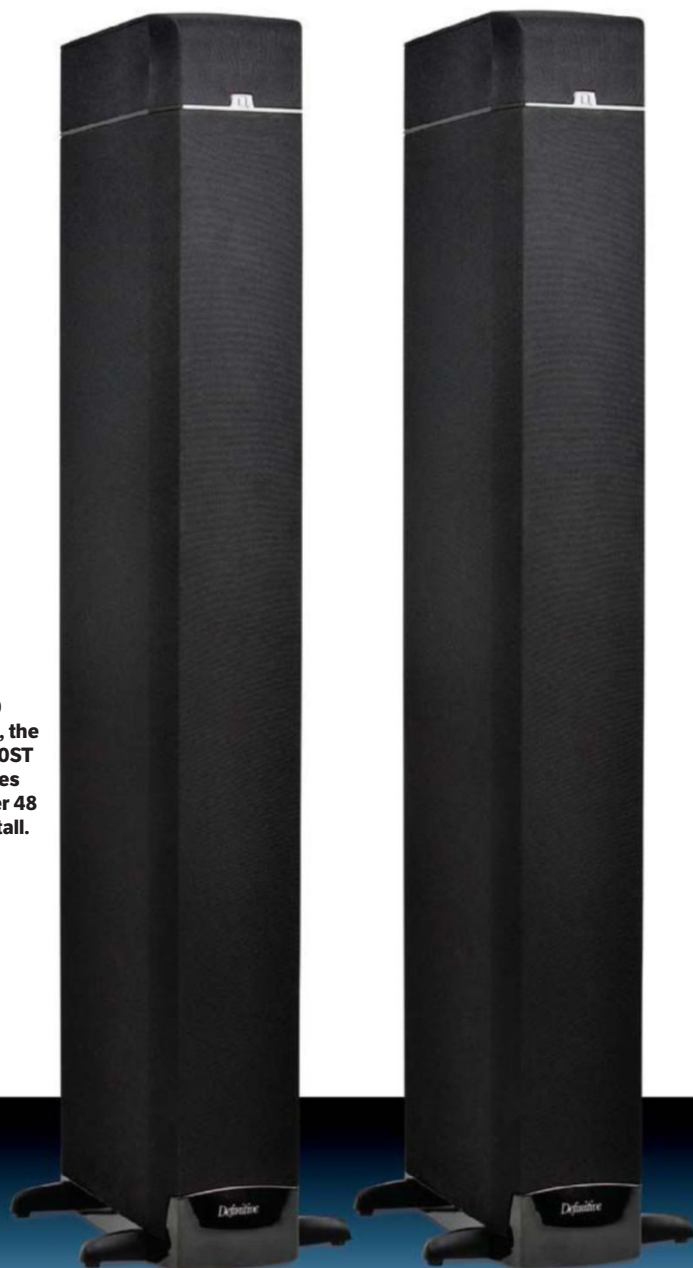
In commercial cinemas, Atmos' verticality is reproduced by multiple ceiling speakers. At home, an introductory Atmos standard is a 5.1.4 layout—the conventional surround speaker layout is supplemented by front and rear top surround pairs. One way to achieve this at home is by using the same

● **With the A60 module, the BP-8060ST measures just over 48 inches tall.**



● **The A60 Elevation Module fits seamlessly atop the BP-8060ST.**

It's a whole lot of loudspeaker.



THE VERDICT

A one-stop, state-of-the-surround loudspeaker solution, especially apt for any who prefer not to accommodate a subwoofer—with the bonus of being Dolby Atmos enabled.



method employed in commercial cinemas: with speakers physically mounted in or to the ceiling. But with many of us unable or unwilling to elect that, Dolby conspired with some manufacturers, Def Tech among them, to cook up Atmos-enabled loudspeakers, with an angled, top-firing driver aimed to reflect the height channels from a smooth ceiling surface. This, along with DSP signal manipulation in the processor, is used to help create the illusion that sound is coming from overhead locations.

One-piece Atmos-enabled speakers will arrive from several makers, but Definitive stole a march on them by devising an add-on, the A60 Elevation Module, which clips neatly atop each BP-8060ST when the tower's gloss-black top panel is simply lifted off its pegs. Sold in pairs, the loaf-of-bread-sized A60s are sealed, one-way boxes with a single 3-inch driver and a pair of conventional, five-way binding post terminals on the rear surface.

Thus, for a complete system, we assembled four BP-8060ST towers, a CS-8060HD center (which employs the same forward-firing three-driver array as the towers, but displayed horizontally, and with a smaller, but still powered onboard woofer), and two pair of the A60 height units. Since the frequency response for each powered BP-8060ST extends quite low (to 20 hertz, according to Def Tech's specs, a claim I could easily accept), no subwoofer was necessary, even in my amply sized room.

Setup

Installing the Def Techs involved a bit of work and some choices. First, the towers come with small, screw-on aluminum outriggers for their bases, which I employed, spiked. The slender towers are fairly stable without these, but the manufacturer goes to some pains to encourage use of the extra feet. Placing floorstanding tower surrounds in my studio entailed a good bit of furniture moving, and grumbling, but I made it work.

The towers and the center channel alike each require mains power to their supplied IEC removable AC cords (the A60s are strictly passive). And each may be supplied a full-range signal by a conventional, high-level speaker cable only, or hooked up via the speaker cable supplemented by a line-level RCA- interconnect cable from your processor's subwoofer output. In the latter case, you make crossover and sub-level assignments via your A/V receiver or controller as you would with any satellite/subwoofer system; in the former case, the crossover is fixed in the speaker (not specified), and each unit's bass level is controlled by the single rear-panel knob present on each.

I stayed with the first, simpler option (setting all channels to Large), both because I suspect most owners will use it that way and because I wanted to experience the speaker as Definitive designed it, without my own tastes superimposed. (Another reason: Splitting the subwoofer output four ways and running two to

SPEAKER SYSTEM

DEFINITIVE TECHNOLOGY BP-8060ST SPEAKER SYSTEM

PRICE: \$5,693 (BP-8060ST, \$999 ea; CS-8060HD, \$699; A60, \$499 pr)

Definitive Technology • (410) 363-7148 • definitivetech.com

the back of the room for the surround towers would have been a chore.) In previous installations, I've tried both and can report that the differences are unimportant for most rooms. (The dual hookup might come in handy if you've got a serious 100-Hz-ish room spike, in which case underlapping the crossover a half-octave or so to create a compensating gap in output can help.)

I placed the front towers a bit in front of my usual screen-flanking positions, so that their rear panels were about 32 inches from the wall; generous spacing is important for the bipolar pattern, and I found that the towers became a bit bass-heavy

when placed much closer. The CS-8060HD center went on my usual low stand, adjusted to the screen's bottom edge. The surround pair of towers I placed a bit behind the listening position, angled slightly in.

As noted, the A60 Elevation Modules clip onto plastic "poppers" that hold the BP-8060STs' top panels in place, so removing the one and installing the other is child's play. The A60s lined up and fit admirably, and the net result really did look like it could have come thus from the factory. Def Tech supplies a little plastic wire-guide that clips to the base of the towers to keep things



● **Class D amplification is on board for the BP-8060ST's 10-inch woofer.**



See soundandvisionmag.com for full lab results and technical definitions



tidy. Since I gave up on tidiness about 20 years ago, I skipped this step.

Music and Movies

After my customary week or so of daily casual use to obviate any break-in issues, I began as usual with critical listening to the BP-8060STs alone, in stereo direct mode. As I fully expected from past encounters with this speaker, I was impressed by just how closely the towers cleave to my idea of correct tonal balance. The BP-8060STs are marginally warmer than my everyday, stand-mount, three-way monitors and, of course, go a good half-octave lower (or better). But otherwise, they are very, very close on timbre.

I tend to look to deeper male vocals for a hot read of loudspeaker midrange. On the classic "Walk on the Wild Side," the late Lou Reed's slightly nasal baritone came across spot on, with just the slightest addition of heft; at the same time, every element of this remarkably well-recorded track was intact and properly proportioned. The BP-8060STs' bipole repro pattern has a natural tendency to accentuate, very slightly, the spatial content of even plain ol' stereo. I could hear this very clearly on "Walk," especially when the, umm, girls' backup *doo-di-doo*s fade in while simultaneously cross-fading from reverb to dry (it's a classic production moment).

Reed's voice on this track is a hard-centered, dryly recorded "in-the-room-with-you" element, a sharp contrast to the space-traveling back-ups. The Definitives maintained this nicely, but their bipolarity added a slightly broader/deeper sense, for a less sharply focused effect. It's quite subtle but easily heard when you A/B the towers against direct-radiating speakers of similar character. I stamp it as neither good nor bad, merely different, a characteristic that comes with the bipolar territory.

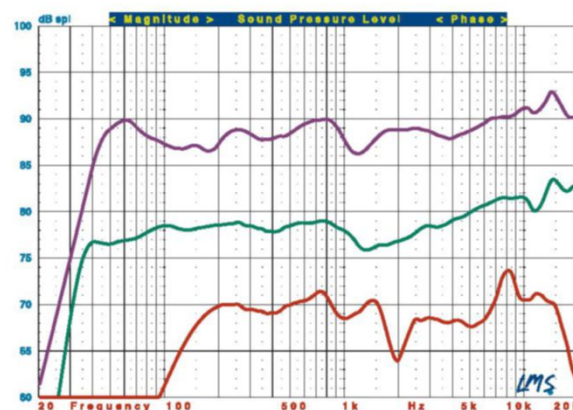
Regular readers know I'm not a big fan of direct-radiating surround speakers aimed at the listener—at least for movies, where I prefer a dipole's ability to enhance spatial ambience while reducing localization tendencies. For multichannel music, however, most producers and mixers (at least pop/rock ones) prefer a setup like our Def Tech suite, with four identical, full-range speakers in the corners. After spinning the surround version of Tom Petty and the Heartbreakers' *Mojo* (in DTS-HD Master Audio, on the album's Blu-ray edition), I can see why. The wraparound distribution of Mike Campbell's guitar fills was convincing, as was the lifelike short-delay, small-space studio ambience on a track like "Running Man's Bible."

A word about bass: With four BP-8060STs, there's plenty of it, and enough to spare. Pop bass guitar like the T.P. disc's had clean, visceral power like you get when you stand next to an Ampeg stack on stage. And when I cued up *Transformers: Age of Extinction* for a sampling, Holy Mother of God! Pounding drums, earth-shaking crashes, gut-stirring lows—and that was just the disc menu. (Bada-bing!)

As I got into the film, I had to dial back the four towers' woofer-level controls a touch to tame a window rattle, even though I was playing 6 dB or so below reference level and hadn't had a rattle problem in years. This points out one more valid argument for the line-level subwoofer-connection option, at least for the front pair: By this route, you would gain remote-control access to overall woofer level (via the A/V receiver/processor) and might choose to

Test Bench

Definitive Technology BP-8060ST Speaker System



BP-8060ST (purple) +2.66/-2.26 dB, 200 Hz to 10 kHz; -3 dB @ 39 Hz, -6 dB @ 36 Hz; impedance minimum 4.68 ohms @ 338 Hz, phase angle -50.34° @ 213 Hz; sensitivity 88.5 dB, 500 Hz to 2 kHz.

CS-8060HD (green) +3.56/-2.15 dB, 200 Hz to 10 kHz; -3 dB @ 40 Hz, -6 dB @ 37 Hz; impedance minimum 5.26 ohms @ 295 Hz, phase angle -45.38° @ 183 Hz; sensitivity 89 dB, 500 Hz to 2 kHz.

A60 (red) +4.15/-5.57 dB, 200 Hz to 10 kHz; -3 dB @ 136 Hz, -6 dB @ 113 Hz; impedance minimum 6.91 ohms @ 302 Hz, phase angle -42.08° @ 179 Hz; sensitivity 84.5 dB, 500 Hz to 2 kHz.—MJP

SPECS

BP-8060ST: 10 in cone woofer, 10 in planar passive radiator (2), 1 in aluminum-dome tweeter (2), 4.5 in cone midrange (3); 300-watt Class D woofer amplifier; line LFE/sub input (RCA, 1), sub-level control; 5.9 (without stabilizer) x 44.2 x 13.1 in (WxHxD); 54 lb • **CS-8060HD:** 8 in cone woofer, 1 in aluminum-dome tweeter, 4.5 in cone midrange (2); 150-watt Class D woofer amplifier; line LFE/sub input (RCA, 1), sub-level control; 21.2 x 5.75 x 12 in (WxHxD); 30 lb • **A60:** 3 in cone full-range; 6 x 4 x 13.1 in (WxHxD); 10.7 lb

preset different woofer-level setups for music, movies, TV, and so on. A corollary benefit to this arrangement is the option to underlap crossover settings as previously discussed, thus highlighting the Definitives' excellent deep-bass qualities while de-emphasizing the next octave a tad, which is generally how I like things.

Played via two channels at truly absurd volume settings, a pitched program with excessive sub-35-Hz

content (in other words, dubstep) could induce a bare hint of woofer or passive-radiator chuffing. But I had to hear it first naked (woofer sections playing alone) to be able to pick it out full-range.

Along the same lines, with my everyday 150-watt-per-channel power amplifier, supplemented by the Definitives' four 300-watt-rated woofer amps, the four towers readily achieved truly foolish levels without

This is a one-stop, state-of-the-art surround solution.



● Each BP-8060ST houses six active drivers.

obvious distortion. And this remained true even with the somewhat less powerful Denon A/V receiver I used for the Atmos auditions below. The BP-8060STs are quite sensitive and seemed a benign load, so big power isn't necessarily required.

The *Transformers* Blu-ray is the only full-length Dolby Atmos disc I currently have, and was, at the time of this writing, the only one available. As you might guess, it's a super-surround-intensive production. As I've already said about Atmos (again, see "Atmos, Here," December 2014 and soundandvision.com), it works, impressively, adding a genuine verticality and an airier, more open, slightly brighter overall surround presentation. (Exploiting the Def Techs' Atmos abilities required an Atmos-capable receiver; I used the

Denon AVR-X5200W, also reviewed in the December issue and on our Website.) It's early days yet, but I think I'm going to be a fan.

The A60 Elevation Modules integrated admirably, sound-wise, with the BP-8060STs. The movie clips from Dolby's August 2014 *Atmos Demonstration Disc* delivered gob-smacking, up-over-and-around placement and movement, and with never a hint of point-source speaker localizing, for beautifully naturalistic ambience.

What's more, at least in the Def Tech towers' case, Atmos went a good way toward mitigating the closeness and directness of having tower surrounds a mere 5 or 6 feet from my ears. Even on non-Atmos material, when I engaged the Denon's "+ Atmos" mode (which appeared to send derived surround-height signals to the four A60s), both the spread and the enlarging feel of surround ambience in all directions were quite notable. It also added a very slight brightness to

● Standard five-way binding posts adorn the back of the A60 module.



the surround bubble, but in a positive, lifelike way.

Fifty-six and change is a lot of money for a surround speaker system, but the Definitive suite as reviewed here—all nine pieces of it—is a whole lot of loudspeaker, especially for those who favor loud and clean. And should Definitive bow a non-powered bipolar Dolby Atmos-enabled model, which I'd hope they would, I wager you'll be

able to shave a good chunk of that money at little if any sonic cost and just add a subwoofer or two. You do need to have a good deal of fore-and-aft room to place these towers well off the front wall, you won't want to stray too near a corner, and you'll need AC power to each speaker. Otherwise, this is a one-stop, full-range, state-of-the-surround solution. I heard nothing but good things from it, and I return the favor. ♦



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MUSIC + MAGIC



The M in D+M

By Mark Fleischmann

Marantz SR5009 A/V Receiver

PRICE \$899

D+M HAS A LEADING ROLE IN THE audio/video receiver market. It's actually an amalgamation of two former companies with markedly different (though both distinguished) histories. Denon, born in 1910 and known for a time as Nippon Columbia, was originally a manufacturer of gramophones and discs in Japan. Marantz, in contrast, was born in the U.S.A. in the early 1950s when Saul Marantz of Kew Gardens, New York, started building preamps in his home.

After numerous corporate permutations (which included a three-decade relationship between Marantz and Philips), Marantz and Denon merged in 2002 into what is now called the D+M Group. In 2014, the pro divisions of both brands were acquired by InMusic Brands, a maker of DJ equipment. However, the consumer divisions continue to market A/V receivers and other audio products under the D+M umbrella.

Atmos, No. Triple Wireless, Yes.

The SR5009 (\$899) is one of three new Marantz A/V receivers, also including the more powerful SR6009 (\$1,299) and Dolby Atmos-capable SR7009 (\$1,999). No, the 7-channel SR5009 doesn't include Atmos decoding—with the exception of Onkyo, which offers three 7.1-channel Atmos-compliant models, AVR makers have chosen to focus their initial Atmos efforts on 9- and 11-channel models that can drive a minimum of four height speakers along with the basic 5.1-channel configuration. But this receiver does offer what I call the wireless triple threat—Wi-Fi, AirPlay, and Bluetooth—and they're all free of awkward extra-cost dongles. That potentially saves you hundreds and boosts our value rating.

AT A GLANCE

+ Plus

- Wi-Fi, AirPlay, Bluetooth built in
- Analog multichannel ins and outs

− Minus

- No HDCP 2.2

Marantz receivers have a unique convex-curved front panel with a small porthole display. Some models augment the porthole with a larger display hidden behind a flip-down door, though this receiver does not. If you depend on the front-panel display, the porthole's modest size might be a limitation. The buttons (for sound mode, zone, dimming, etc.) that normally would be behind the door are instead beneath the porthole in plain view, reduced to slivers to avoid marring the clean visual design.

This \$899 receiver offers a fuller back panel than, say, a typical \$600 model does. There are eight HDMI inputs and two outputs, version 2.0, but minus the HDCP 2.2 digital rights management used for UHD. This is hardly unusual for most 2014 AVR models, but it isn't an easily ignored omission, either. While it's hard to know exactly what ramifications this might have for the passthrough of Ultra HD content, it's clear that at least some future streams and probably the upcoming UHD Blu-ray Discs (now scheduled to appear by the end of 2015) will be encoded with HDCP 2.2, and even HDMI 2.0-compliant models today that lack this latest copy-protection scheme would likely block such signals. The impact of this on your buying decision will depend on how critical you deem future-proofing for UHD video switching.

Also present on the SR5009 are three HD-capable component video

inputs and one output. Some of our readers have expressed concern about the disappearance of analog multichannel interfaces from sub-\$1,000 receivers. They will be glad to find the 7.1-channel input and 7.1-channel output (with two monophonic subwoofer connections) on this one. The multi-ins would play nice with the multi-outs on your high-res SACD disc player, and the preamp-outs would allow the receiver to serve as a preamp/processor, feeding a separate multichannel power amp. Stereo analog inputs (four) and digital coaxial/optical inputs (two each) are reasonably plentiful, so this receiver will support your two full racks of legacy components, though changing the litter boxes for your 30 cats is still a responsibility you must bear alone.

With Denon and Marantz sharing the D+M stable, it's no surprise that

the SR5009 and some Denon receivers have several traits in common, including the graphic user interface (with its good-looking and highly readable font) and the slightly simplified remote control. Both brands supply cardboard microphone stands for use during auto setup, a helpful plus. Despite these similarities, the two brands have traditionally had different cosmetics and (in my experience) voicing, with Denon typically offering a more "clinical" sound and Marantz a more "euphonic" one. More on that later.

The SR5009 is rated at 100 watts per channel with two channels driven. Another Marantz tradition is to maintain 75 percent of rated power with five channels driven; see our measurements to find out whether this model measures up to that yardstick. Room correction is MultEQ XT, Audyssey's second-best system—and I consider Audyssey's second-best to be very good indeed.

In addition to AirPlay and Bluetooth, this receiver can use DLNA via Wi-Fi or Ethernet connections to grab music from a PC, network attached storage drive, or USB external drive. That includes



RATING

Marantz SR5009 A/V Receiver
 Audio Performance ★★★★★
 Video Performance ★★★★★
 Features ★★★★★
 Ergonomics ★★★★★
 Value ★★★★★

THE VERDICT

Though it lacks the latest UHD video future-proofing, this mid-line Marantz delivered great sound and solid value.

A/V RECEIVER

MARANTZ SR5009 A/V RECEIVER

PRICE: \$899

Marantz • (201) 762-6500 • us.marantz.com

high-resolution files such as DSD, FLAC, and WAV up to 192 kilohertz and 24 bits; ALAC and AIFF up to 96/24; and lossy MP3 and AAC. Gapless playback is supported for all formats, not just for the Apple-approved ones, and Marantz says this is an exclusive (glad I asked!). A sticker on the front panel celebrates the presence of Spotify Connect audio streaming.

Associated equipment included five Paradigm Reference Studio 20 v.4 speakers, Seismic 110 subwoofer, Oppo BDP-83 universal disc player, Micro Seiki BL-21 turntable, Shure V15MxVR/N97XE cartridge/stylus, and—a new/old addition—a Denon PRA-S10 stereo preamp serving as phono preamp. A D+M-related review seemed an appropriate time to rescue this champagne-finish beauty from the back of a closet. It was Denon's attempt to capture a slice of the high-end two-channel market in the early 1990s. Its phono stage is less colorful, but better balanced, than that of the Onix OA 21s integrated amp I mostly use for this purpose. All movies were on Blu-ray Discs with DTS-HD Master Audio soundtracks.

D=M?

I sometimes break in receivers before running their room correction systems and try not to reach any hasty conclusions. But I couldn't help noticing after a few hours that this Marantz, au naturel, seemed strikingly similar to the last few Denon receivers I've reviewed. That meant a reticent top end, quite unlike Marantz models I've known in the past. Is D+M adopting similar voicing for both lines (or homogenizing the critical innards)? Denon says no—that Denon and Marantz products are voiced and sound-tuned by two wholly separate teams, and that the SR5009 also has additional preamp circuitry (their HDAMS module) not found in Denon models. But both brands not only sounded the same unvarnished but also reacted similarly to room correction. With Audyssey MultEQ XT in play, the room-corrected difference was startling, with remarkable gains in detail, the imaging of objects in the soundfield, and overall soundfield integrity. As I did with the last Denon receiver I reviewed, I preferred MultEQ's slightly rolled-off Reference setting



for movies and the livelier Flat setting for music. Folks, I'm not complaining: This receiver sounded beautiful. Whatever D+M is aiming to do, it's working.

Homefront, with a proficient Sylvester Stallone screenplay, continues a recent uptick in the quality of soundtracks for Jason Statham action movies. If you like your motorcycles, DEA raids, shootouts, explosions, and other assorted apocalypses well integrated with clear dialogue, you'd like the way the Marantz handled this soundtrack. Audyssey's bass equalization was spot on, shaping bass above and below the sub crossover to a fare-thee-well, and seamlessly integrating the speakers and sub.

One benefit of licensing Audyssey is the option of the Dynamic EQ and Dynamic Volume low-level listening modes. As afternoon turned to evening, a time of day when I like to quiet down, I invoked both modes for the movie's final half-hour, with Dynamic Volume at its lightest setting. It allowed me to adjust the volume control downward slightly.

Captain Phillips has Tom Hanks at the helm of a merchant ship, squaring off against Somali pirates. The Marantz continued to effortlessly handle diverse soundtrack elements—tense dialogue, seafaring sounds, all the things that make you feel you're aboard a ship—and louder passages showed no sign of strain. This demo lingered even later into the evening's quiet time. As the thunderous quasi-military finale got underway, I turned Dynamic EQ/Volume back on, this time at the medium setting. This enabled an even lower volume setting, yet the soundtrack elements were so well juggled that the almost unbearable tension never abated.

After all those action thrills, the broad comedy of *The Grand Budapest Hotel* came as a relief. It has one of the most whimsical musical scores I've heard in a long time, which the Marantz delivered lovingly—not for the first time, I ascribe human characteristics to hardware—with loads of textural and spatial richness. Balalaikas festooned the soundtrack, and by the time the credits rolled, they had taken over completely, with the Ludmila Zykina State Academic Russian National Balalaika Ensemble executing mad dervishes all over the place.



● The classic Marantz porthole display graces the SR5009's front panel.

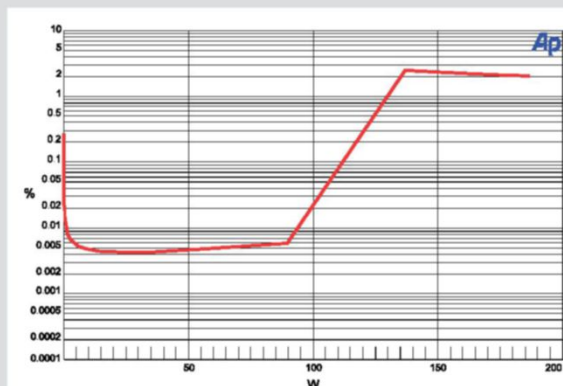
Test Bench

Marantz SR5009 A/V Receiver



See soundandvision.com/TestBench for full lab results and technical definitions.

● The SR5009's remote has been simplified.



AUDIO This graph shows the SR5009's left channel, from CD input to speaker output with two channels driving 8-ohm loads. Measurements for THD+Noise, crosstalk, signal-to-noise ratio, and analog/digital frequency response were all within expected performance parameters. Full details available at soundandvision.com/TestBench.—MJP

	0.1% THD	1.0% THD
2 Channels Continuously Driven, 8-Ohm Loads	111.7 watts	129.8 watts
2 Channels Continuously Driven, 4-Ohm Loads	182.7 watts	203.9 watts
5 Channels Continuously Driven, 8-Ohm Loads	72.9 watts	88.7 watts
7 Channels Continuously Driven, 8-Ohm Loads	68.5 watts	81.0 watts

VIDEO The Marantz passed most of our standard video tests with no issues. However, it failed the chroma resolution test (horizontal) by severely rolling off the response at the highest chroma burst, rendering the resolution lines on that burst essentially invisible. Some processors deliberately roll off chroma early to minimize chroma noise.

THE Marantz passed 3D with Blu-ray players from three brands when the display was a JVC projector but not with a new BenQ projector. This indicated a possible EDID handshake issue between the Marantz and BenQ—though we are not equipped to determine with absolute certainty at which end the problem originates. To be fair, we are finding similar EDID problems for 3D signals among HDMI 2.0 displays; see our review in this issue of the Panasonic TC-65AX800U.—TJN

SPECS

Power Output: 7 x 100 watts (8 ohms, 2 channels driven) • **Auto Setup/Room EQ:** Audyssey MultEQ XT • **Video Processing:** Analog Devices NatureVue 4K scaling/passthrough • **Dimensions (WxHxD, Inches):** 17.3 x 6.3 x 13.4 • **Weight (Pounds):** 33.1 • **Video Inputs:** HDMI 2.0 (8), MHL-enabled HDMI (1), component video (2), composite video (2) • **Audio Inputs:** Coaxial digital (2), optical digital (2), stereo analog (5), 7.1-channel (1) • **Additional:** USB (1), Ethernet (1), Wi-Fi antenna (2), IR remote (1), remote (in/out), AM (1), FM (1) • **Accessory:** DS-A5 AirPlay dock (optional) • **Video Outputs:** HDMI 2.0 (2), component video (1), composite video (1) • **Audio Outputs:** Stereo analog (1), 7.1-channel pre-out (1), 1/4-inch headphone (1) • **Additional:** RS-232C (1), 12-volt trigger (1)

Black Cow, White Vinyl

I recently added a Masterdisk pressing of Steely Dan's *Aja* to my library. (Regrettably, I can't afford the Cisco pressing that many rave about.) With or without room correction, this best-case content sounded great. I admired the amp's warm voicing, and it gave the drum kit the meaty weight it deserved, especially (of course) on "Black Cow." But as much as I liked the amp's intrinsic sound, the addition of Audyssey MultEQ XT's Flat setting solidified the imaging, opened up the soundstage, and made every instrument pop—all of which better suited the epic title track, with its warm synths, serpentine guitar solos, and climactic drum solo.

In anticipation of the vinyl box set of *The Beatles in Mono*, I dusted off my late-1960s Parlophone mono pressing of *Rubber Soul*. (A large but inaudible scratch on side one had brought it down to a price I could afford.) Combined with the newly installed Denon preamp, the Marantz receiver brought me closer to the music than ever. As well as it worked with Audyssey on, it cohered even more with Audyssey off; Marantz's amp was born to beatify the Beatles. As an extended encore, I played my late-1970s French white-vinyl copy of *The Beatles* (a.k.a. *The White Album*). Despite its inherently brighter tonal balance, it sounded more luscious with Audyssey off. My respect for the Marantz's intrinsic qualities as an amp continued to grow.

The Marantz showed off its rhythmic virtuosity and tonal richness

great help, bringing out the weird textures of the tortured piano strings. Turning off the room correction deprived them of their incredible complexity and beauty.

The Marantz SR5009 is a solidly engineered surround receiver with an inherently good-sounding amp and the kind of room correction that takes the amp to the next level. The multiple presences of Wi-Fi, AirPlay, and Bluetooth are necessary concessions to the way people listen now, though this receiver also accommodates old-fashioned disc-spinning listeners with the kind of performance that makes a hard-copy music library worthwhile. Once, I came this close to adopting a somewhat beefier Marantz as my reference receiver. The brand's reputation for delivering great sound continues to be well earned. ♦

Audio editor Mark Fleischmann is also the author of the annually updated book *Practical Home Theater* (quietriverpress.com).



● The SR5009 includes Wi-Fi, AirPlay, and Bluetooth.





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Ultra Awesome

By Al Griffin

RATING

Panasonic TC-65AX800U 3D LCD/LED Ultra HDTV
 2D Performance ★★★★★
 3D Performance ★★★★★
 Features ★★★★★
 Ergonomics ★★★★★
 Value ★★★★★

Panasonic TC-65AX800U 3D LCD/LED Ultra HDTV

PRICE \$3,000

STEEP PRICE DECLINES HAVE become the norm in the consumer electronics world, especially when it comes to TVs. Case in point: The last Ultra HDTV I reviewed, a Samsung 65-incher that arrived at the tail end of 2013, had an MSRP that was twice the \$3,000 sticker price of Panasonic's 65-inch TC-65AX800U Ultra HDTV. Now I hear that Vizio is selling sets with the same screen size and pixel count for \$2,200. They might as well be giving them away.

Some may wonder about the ability of TV makers to sustain their business model with Ultra HDTV prices dropping so precipitously, but it's also true that Ultra HD itself isn't a great selling point. First, there's the issue of the human eye not being able to appreciate the full detail packed into an Ultra HD image on a reasonably sized screen from a typical viewing distance (about 10 feet, on average). Then there's the problem of 4K/UHD content. We're still waiting on a 4K Blu-ray format, which apparently is now going to be a late-2015 thing. A bit of 4K/UHD is currently available for streaming from

AT A GLANCE



- **Accurate color**
- **Good contrast and shadow detail**
- **Customizable Home Screen GUI**
- **Decent price for a 65-inch UHDTV**



- **Some picture noise**

Netflix (and more is reportedly coming from other sources, including Amazon Instant Video), but higher-res video content on the whole remains a scarce commodity.

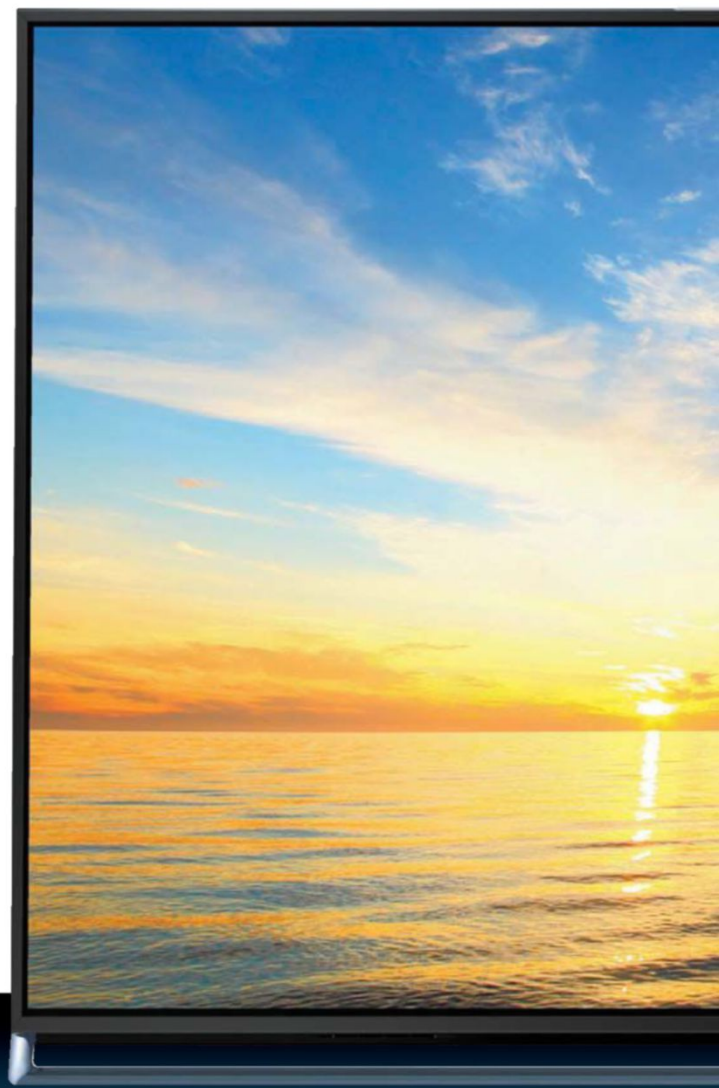
Which brings us back to this here Panasonic TV. Panasonic's first Ultra HDTV line doesn't come with a proprietary 4K video player with movie content, like Samsung's UHDTV sets have been known to do. It can play 4K content from Sony's recently liberated 4K media player and download service, however, which was proprietary to Sony sets for a while but will now

play back on any UHDTV with HDMI 2.0 and the latest HDCP 2.2 digital rights management technology. When I began my review, the Panasonic wasn't capable of streaming 4K Netflix—I didn't even have an opportunity to screen 4K content on it (beyond patterns from my test generator) during the course of my evaluation! But just as we went to press, Panasonic issued a firmware update that provides this

functionality—something that Sony, Samsung, LG, and Vizio Ultra HD sets also readily do.

So what else does the Panasonic TC-65AX800U have to recommend it? Panasonic's 4K TVs are the only sets out there with a DisplayPort input for PC gaming at resolutions up to 2160/60p—games being another potential source of 4K content. The TC-65AX800U has an edge-lit LED backlight with local dimming to enhance contrast, and it's THX 4K Certified to make sure it meets minimum requirements for brightness, sharpness, gamma, and color reproduction. It also does 3D; Panasonic gives you two pair of active-shutter glasses.

Panasonic has endowed the TC-65AX800U with extensive Smart



THE VERDICT

Panasonic's 65-inch Ultra HDTV provides impressive performance and a huge array of Smart features.

HDTV

PANASONIC TC-65AX800U 3D LCD/LED ULTRA HDTV

PRICE: \$3,000 (2 pair 3D glasses included)

Panasonic • panasonic.com

features, most of them centered on its Life+Screen platform. This aims to give multiple viewers the ability to customize the set's Home Screen Smart GUI based on personal preferences for apps and utilities such as clock, calendar, and weather forecast. There are several different Home Screen formats you can select from, and you also get the ability to switch it off entirely if you'd prefer to opt out of the Life+Screen universe. The Panasonic's other Smart features are too numerous to mention (and would require their own full-length review), but they include voice-controlled navigation, Web browsing, a content recommendation engine, and Swipe & Share for beaming content to the TV from a tablet or smartphone.

AX800U series TVs come with two remotes: a standard handset and a

Touch Pad controller. The standard remote is a traditional wand in every sense, with a backlit keypad plus a dedicated button to launch Netflix—the only “Smart TV” feature that most viewers are likely to use. The Touch Pad is a compact thing that rests comfortably between your thumb and forefinger. You use it to navigate Home Screens, Web pages, and app interfaces by sliding your thumb along a circular pad and pulling a trigger on the back to make selections. Panasonic's TV Remote 2 iOS/Android app does everything both remotes do and more, including advanced picture tuning and video calibration (more info on that in Setup).

In contrast to Panasonic's past TVs—plasmas, mainly—the AX800U series has a sleek, contemporary

appearance. At about half an inch, this TV's bezel is thin and tinted black to create an “all-screen” look. A metal bar runs along the bottom to help balance it on a TV stand, and there's a hefty pedestal (adding 40 pounds to the TV's total weight) that keeps the panel safely stable. With the Information Bar screen enabled, a tiny camera pops up from the TV's top when it senses someone in the room; this can recognize your face and automatically display time, weather, and other custom info in a horizontal bar along the screen's bottom.

Setup

Along with that DisplayPort connection, AX800U sets have three regular HDMI inputs plus one HDMI

2.0 input that lets the TV display up to 2160/60p-resolution Ultra HD content. Picture presets include THX Cinema and THX Bright Room, and there are two Professional presets designed for storing calibrated day/night settings. You can easily copy any picture adjustments you make from one input to one or more of the set's other inputs—a time-saving convenience.

You select the level of local dimming you want using the TV's Adaptive Backlight Control. The Max setting turned out to deliver the strongest contrast, both subjectively and measured. There's also a Letterbox setting with Normal and Dimmer presets to make letterbox bars on ultrawide movies appear darker (I selected Dimmer). The Motion Picture setting provides three presets to reduce the effects of motion blur/judder. Strong and Mid delivered the best motion resolution with test patterns, though they both added a noticeable level of the so-called soap-opera effect. The Weak setting proved a better compromise: It boosted motion resolution on test patterns up to 900 lines but introduced only a slight degree of soap-opera effect.

A Pro Settings menu provides all the controls you need to dial in a perfect picture. It includes both White Balance and Color Detail (with hue, saturation, and luminance sliders for primary and secondary colors) and a Gamma Detail adjustment that lets you change the gain separately for each IRE level. A huge benefit to Panasonic's TV Remote 2 app is that it provides access to all of these settings on your tablet's touchscreen. This lets you fine-tune the image without having to navigate menus on the TV's screen—yet another time-saver.

2D Performance

The Panasonic's 2D performance was for the most part very good. With the Max Adaptive Backlight Control selected, contrast was punchy, and black letterbox bars on movies looked uniform and solid. I watched a Blu-ray of the horror film *The Conjuring*, which includes a

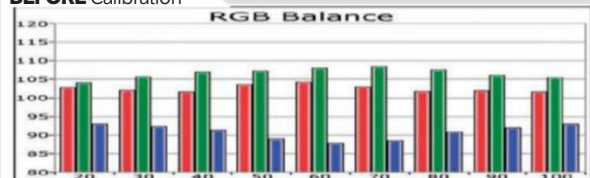


● The TC-65AX800U's ultra-thin bezel gives an all-screen look.

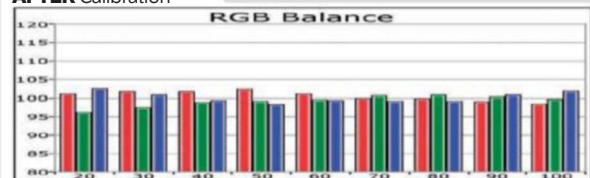
Test Bench

Panasonic TC-65AX800U 3D LCD/LED Ultra HDTV

BEFORE Calibration



AFTER Calibration



FULL-ON/FULL-OFF Contrast Ratio: 19,110:1

For the picture settings plus additional details on calibration and video-processing tests for this review, go to soundandvision.com/TestBench.

PRE-CALIBRATION measurements were made in the THX Cinema preset at the default settings. Post-calibration measurements were made with the Professional1 preset active. With the TC-65AX800U's Max Adaptive Backlight Control switched on, its black level measured 0.002 ft-L and peak white 38.22 ft-L, for a contrast ratio of 19,110:1. With the Max Adaptive Backlight Control off, black level measured 0.013 ft-L and peak white 38.67 ft-L, for a contrast ratio of 2,975:1.

THE average Delta E of the Panasonic's pre-cal gray scale averaged out to 12.7; calibration resulted in a much-improved 2.2 average, with a high of 5.5 at 20% brightness. (Delta E is a figure of merit that indicates how closely a display adheres to the Rec. 709 HD color standard. Experts generally agree that levels below 3 are visibly indistinguishable from perfect color tracking.)

THE Delta E of the Panasonic's color points at the THX Cinema mode's default settings averaged an impressive 1.5. Calibration improved that to an even more impressive 0.3.

WITH the Adaptive Backlight Control set to Max, gamma in the THX Cinema mode measured 1.9, hitting 1.7 at 80% and 2.2 at 100%. Post-calibration in Professional1 mode, gamma measured 2.1, remaining close to that mark throughout the full brightness range.

I saw no screen uniformity issues on the TC-65AX800U with its Adaptive Backlight Control switched on. All full-field gray test patterns looked evenly illuminated when viewed straight on. Off-axis performance was about average, with contrast and color starting to fade when viewed about 20° off from center-screen.

THE Panasonic passed all of our standard- and high-def video-processing tests, except for high- and standard-def 2:2 pulldown.—AG

scene where the father descends to the cellar of the family's new house. Here, blacks were deep, and there was enough shadow detail to expose objects strewn about the space. When he lit up a match to get a better look at his surroundings, I

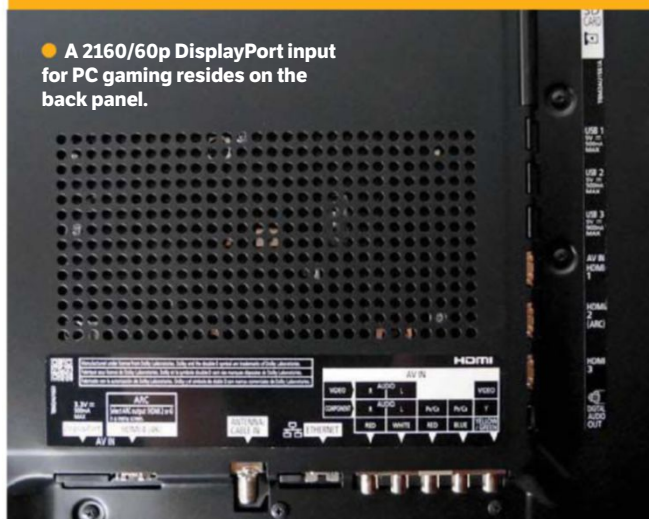
saw no overt "blooming" or other backlight-related artifacts. I did notice picture noise in a few dark scenes, but it wasn't so bad as to be consistently distracting.

Color accuracy was another one of the TV's strong points. In an earlier

SPECS

Dimensions (WxHxD, inches): 57.8 x 35 x 14.5 (with stand); 57.8 x 34 x 1.8 (without stand) • **Weight (Pounds):** 130 (with stand); 90.4 (without stand) • **3D Glasses (Active):** 2 pair included • **Video Inputs:** DisplayPort, HDMI 1.4 (3), HDMI 2.0 (1) component video/composite video (1), RF • **Audio Inputs:** Stereo RCA (1) • **Other:** Ethernet (1), USB (3), SD Card • **Audio Outputs:** Stereo RCA (1), optical digital audio (1)

● A 2160/60p DisplayPort input for PC gaming resides on the back panel.



scene from *The Conjuring*, where the family is shown moving in, an exterior shot of the house displayed a strikingly natural color palette. The white clapboard and columns came off as crisp and chalky, while the family's station wagon had a distinctly creamier tone. The patchy lawn, meanwhile, was the right shade of green, and leaves on the trees had a convincingly autumnal reddish-brown hue.

3D Performance

The Panasonic's 3D performance was also good—at least, what I was able to see of it. For some reason, my Oppo BDP-105 Blu-ray 3D player didn't play nice with the TC-65AX800U. Every time I tried to spin a Blu-ray 3D disc, I'd get an error message claiming that the connected TV wasn't a 3D-compatible display. (And yes, the Oppo had been upgraded to its current firmware version.) Fortunately, Netflix now streams 3D titles, so I watched a Wim Wenders

● Panasonic includes a secondary Touch Pad controller.



dance documentary called *Pina* directly from the TV's built-in app. The 3D image was solid on the Panasonic, with no visible crosstalk. Actually, I'd have to say it was one of the better-looking 3D images I've seen, so I certainly anticipate checking out this movie on Blu-ray.

Conclusion

Panasonic's 65-inch TC-65AX800U is a full-featured, good-looking, and very well-performing TV. I wish I could say something about how it handled 4K movie content, but neither the Sony movie server nor Netflix 4K streaming was compatible with this set during my time with it. Those purchasing this Panasonic now won't have those limitations, though, and can also look forward to the arrival of 4K Blu-ray. It should be a treat watching those discs on a set as good as the TC-65AX800U. ♦



● The standard remote has a Netflix button.

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Entertainment Reviews in High Definition

BLU-RAY 3D Godzilla



RATINGS

	Poor	Fair	Good	Excellent	Reference
PICTURE	★	★	★	★	★
3D-NESS	★	★	★	★	★
SOUND	★	★	★	★	★
EXTRAS	★	★	★	★	★



Return of the King—of Monsters



In the 1940s and '50s, the South Pacific was the testing ground for nuclear weapons as the Cold War was beginning to heat up. But were there actually tests, or was there another reason? Could the super powers actually

have been waging battle with some creature of unknown origin? What would Nature's reaction be to all of the nuclear fallout in the region?

Nearly 50 years later, a bizarre discovery is made at a mining camp in the Philippines that brings a Japanese researcher (Ken Watanabe) and his team to investigate some mysterious giant cocoons in a newly found cavern. What's even more puzzling is it looks like one of these cocoons has recently hatched and that a large creature has escaped from the island and has hidden in the Pacific. Could this be Nature's response?

Expectations on reboots of familiar stories are generally pretty low, but I have to give screenwriter Max Borenstein props for creating a compelling foundation for *Godzilla*. The first act really draws you in to set the narrative for the story, but



BLU-RAY 3D
STUDIO: Warner Bros., 2014
ASPECT RATIO: 2.40:1
AUDIO FORMAT: DTS-HD Master Audio 7.1
LENGTH: 123 mins.
MPAA RATING: PG-13
DIRECTOR: Gareth Edwards
STARRING: Aaron Taylor-Johnson, Ken Watanabe, Bryan Cranston

PICTURE	★★★★★
3D-NESS	★★★★★
SOUND	★★★★★
EXTRAS	★★★★★

unfortunately things start to fall apart in the second act. The central character—besides Godzilla—isn't developed very well, and his only purpose is to somehow be involved with Godzilla's trek eastward across the Pacific. Many have complained about how much screen time the monster gets, but I actually found it refreshing and somewhat Hitchcock-esque in that director Gareth Edwards shows the lead-up and aftermath of most of the attacks and allows the viewer to fill in the blanks.

The film was shot natively in 2D and converted to 3D in post-production. Frankly, the 3D doesn't add much to the experience and in some ways detracts, especially in the really dark scenes where shadows are less resolved versus the 2D. Still,



the CGI effects have more 3D pop than the non-green-screen scenes. Of the two versions, I much preferred the 2D mainly due to increased brightness, deeper—and uncrushed—black levels, and less strain on my nose from the heavy glasses needed for 3D on my JVC projector.

The DTS-HD Master Audio 7.1 track is the true star of the show and is one of the best soundtracks of the year, if not the entire Blu-ray format. Every element is here—active pans, clear dialogue, and bass response that will wake the dead. There are numerous cases of electromagnetic explosions that encompass the room, and when Godzilla is on the attack, the entire neighborhood will know something is amiss. The utilization of the rear speakers shines during the battles but isn't forgotten in the subtler scenes and provides lifelike ambience. Dialogue can sometimes get lost in such a bombastic presentation, but that's not the case here. It remains intelligible throughout and firmly rooted in the center speaker.

Supplements include three interesting vignettes relating to what transpires during the movie as well as four behind-the-scenes featurettes that delve into the production.

This may be the best big-screen *Godzilla* we've ever seen, but frankly, the bar is set pretty low, especially after the 1998 stinker from Roland Emmerich. I found the ending a bit of a letdown, but the audio track is well worth the price of admission alone, and I was pleased there was some semblance of a story to enjoy. **David Vaughn**



GHOSTBUSTERS

THREE DECADES LATER, WE'RE STILL CALLING

Sony Pictures



Yes, it's been 30 years since the original *Ghostbusters*, the first movie to strike upon that irresistible balance of big laughs and big scares. The story is built around the ridiculously fun idea of professional trackers/captors of wayward spirits, brought to life by the undeniable comedic talents of Bill Murray, Dan Aykroyd, and Harold Ramis. The Oscar-nominated special effects also helped *Ghostbusters* become the biggest box-office hit in a year full of blockbusters. Although young Mr. Murray's effusive wisecrass dates the movie somewhat (much like the remarkable amount of smoking on display), watching it anew reminds us of his consummate ability to find often subtle ways to make every moment his own—and so many of his lines worth quoting.

As Sony has done with a number of its catalog titles, this one was remastered at 4K resolution for Blu-ray and released in 2013, downconverted for 1080p high definition. While I don't have that disc, I'm guessing the same master is used here. Almost immediately, I was stuck by the apparent refresh of the colors versus the old 2009 Blu-ray, beginning with the assorted book spines in the opening New York Public Library scenes and proceeding to reveal a pleasing new palette across the entire film. Blacks are still largely flat and lifeless. Well-lit shots, however, can be more lifelike and detailed, but some of those old-school special effects don't hold up all that well in the unforgiving light of today's home theaters. Twitchy, mildly pesky noise and inconsistent, occasionally distracting grain appears, but in general, the quality of the 2.4:1 image is an improvement over that first HD disc from 2009.

In an interesting switch, the soundtrack here is presented in DTS-HD Master Audio 5.1, whereas the two previous Blu-rays were Dolby TrueHD. This high-res remix offers effective but not excessive low-end usage to punctuate the frights, with an enjoyable low-end kick as well as surround extension for the neutrona wands, the powerful weapon of choice for well-equipped Ghostbusters.

There's a long list of bonus material to sort through, some ported from past editions, including a terrific commentary track, deleted scenes, and a picture-in-picture viewing mode. New for this release is the first part of a retrospective conversation with Aykroyd and director Ivan Reitman plus TV-friendly alternate takes of key lines and the long-sought-after music video for the ever-catchy theme song. Be warned: It's even cheesier than you remember. ● **Chris Chiarella**



BLU-RAY

STUDIO: Sony Pictures, 1984
ASPECT RATIO: 2.40:1
AUDIO FORMAT: DTS-HD Master Audio 5.1
LENGTH: 105 mins.
MPAA RATING: PG
DIRECTOR: Ivan Reitman
STARRING: Bill Murray, Dan Aykroyd, Harold Ramis



CHEF

TO HALLENDALE AND BACK

Universal



Chef Carl Casper (Jon Favreau) doesn't understand social media. So, when he attacks L.A.'s most powerful restaurant critic (Oliver Platt) on Twitter, their war goes viral and sinks Casper's career. Hoping to repair the crestfallen chef's relationship with son Percy, his loving ex-wife (Sofia Vergara) drags him to Miami. There, he buys a food truck and embarks upon a cross-country foodie road trip, which becomes a journey of self-discovery. In addition to his starring role, Favreau wrote, directed, and co-produced *Chef*, which probably explains why so many top stars agreed to work for scale on this indie film. The result is an intimate, endearing movie, which, with Twitter and food trucks prominently featured, is also quite timely.

Given Favreau's résumé, it comes as no surprise that audio and video quality are commendable. At first glance, cinematographer Kramer Morgenthau's frames seem dark, his use of color muted; however, closer inspection reveals that the film is cannily correct in both respects. Lighting is unimpeachably natural, from clean, pure whites through rich, deep blacks that reveal copious shadow detail. Colors are highly realistic but never vibrant or flashy. Flestones are cannily balanced and perfectly saturated. There is, however, a softening of image sharpness and textural detail that compromises this Blu-ray transfer.

Audio mirrors video: natural but unspectacular. Voices are gloriously, meticulously articulated. Musical scoring is beautifully delineated though subdued in the mix. Given the absence of special effects, the surround channels are surprisingly busy: The whirl and din of kitchen activity and the hubbub of restaurant patrons, for example, are wonderfully atmospheric. Your subwoofer, on the other hand, will take a siesta for pretty much the entire 115 minutes. The dearth of Foley effects, which would have added a welcome dose of realism to kitchen and restaurant scenes, is disappointing.

Extras, though limited, are highly worthwhile. All seven deleted scenes enhance our understanding of the film's story line and character development. Though they wouldn't have fit into the final cut, the outtakes of Amy Sedaris comprise the comedic highlight of the entire Blu-ray package. A full-length commentary by Favreau and co-producer Roy Choi, the food truck visionary who also served as *Chef*'s culinary consultant, percolates with enlightening production details. Favreau and Choi's obvious camaraderie makes this feature a delight. ● **Anthony Chiarella**



BLU-RAY

STUDIO: Universal, 2014
ASPECT RATIO: 2.40:1
AUDIO FORMAT: DTS-HD Master Audio 5.1
LENGTH: 115 mins.
MPAA RATING: R
DIRECTOR: Jon Favreau
STARRING: Jon Favreau, Sofia Vergara, John Leguizamo





DRAFT DAY

ARE YOU READY FOR SOME FOOTBALL?

Lionsgate



After pulling off a blockbuster trade, general manager of the Cleveland Browns, Sonny Weaver, Jr. (Kevin Costner) now controls the number-one pick in the draft. The expectations of the fans are through the roof, and the ambitious owner of the team (Frank Langella) and new head coach (Denis Leary) are putting pressure on him to take the consensus first pick, but his gut is telling him to go in a completely different direction. Should he risk his job by following the instincts that got him to the top in the first place, or should he bow to the immense peer pressure?

The NFL has a rabid fan base, and ESPN's coverage of the draft garnered over 45 million pairs of eyeballs this year, so it was only a matter of time before someone decided to make a movie around the event. Co-writers Scott Rothman and Rajiv Joseph capture the essence of the process so that even the non-fan—like my wife—could follow the proceedings. Director Ivan Reitman, who's better known for hit comedies than dramas, does a great job at keeping the pace brisk and the audience on the edge of their seats as the action unfolds. While Costner's character is the only one that's fully explored, the supporting cast and secondary story lines tie in well with the screenplay. It's also fun to see the real-life sports commentators in the film—they do a great job at adding legitimacy to the story.

Shot digitally with Arri Alexa digital cameras, the picture is razor-sharp from beginning to end. Reitman also throws in a lot of split-screen and picture-in-picture shots with some neat special effects that add something new to the mix. Some may find this editing gimmick a tad distracting, but I personally liked it. Colors are accurate and pleasing, but fleshtones are all over the map and can run a little hot on occasion. The audio track is just what you'd expect from this type of story. Dialogue is firmly rooted in the center speaker, with some occasional well-placed surround envelopment, specifically during the NFL draft at Radio City Music Hall.

Supplements include a couple of making-of featurettes, a background piece on the NFL draft, an audio commentary with the writers, deleted scenes, the theatrical trailer, and a DVD and UV Digital Copy of the movie.

If you're a fan of the NFL, then this film is right up your alley. If not, you still may find enjoyment from the feel-good story, and you should be entertained. Recommended. **David Vaughn**


BLU-RAY
STUDIO: Lionsgate, 2014

ASPECT RATIO: 2.40:1

AUDIO FORMAT: DTS-HD Master Audio 5.1

LENGTH: 109 mins.

MPAA RATING: PG-13

DIRECTOR: Ivan Reitman

STARRING: Kevin Costner, Chadwick Boseman, Jennifer Garner

PICTURE
SOUND
EXTRAS


GHOST IN THE SHELL: 25TH ANNIVERSARY EDITION

LESS HUMAN THAN HUMAN

Anchor Bay



When American radio announcer Herbert Morrison stood watching the Hindenburg disaster unfold before his eyes, he tearfully exclaimed, "Oh, the humanity!" I coincidentally had the exact same thought while watching

Ghost in the Shell again for the first time in 20 years—but for a much different reason. I saw this film when it first came out, and I remember having a difficult time identifying with it. I finally figured out why: There's no humanity in it.

Welcome to Tokyo, 2029, where technology has advanced to the level of cybernetic enhancements in humans for better or worse. There's scarcely a person alive who hasn't undergone some kind of mechanical alteration, and if you're a cop charged with the job of hunting down computer hackers and cyber terrorists, it's practically a requirement. The more cybernetic alterations you have, the more effective police officer you are. It also means you're irretrievably detached from your own humanity and more susceptible to be hacked by those same cyber-terrorists. Quite the paradox.

For the first time, the original cut of the film is available in HD. The transfer has been upgraded to 1080p from the previous version's 1080i video transfer, and it's a marked improvement. Images are sharper and more detailed, though there are still slight blemishes here and there. I was stunned to find out that the 5.1 DTS-HD Master Audio applies to the English dubbed version only. The original Japanese language audio track, which should be the preferred viewing choice, has been rendered for a miserable Dolby Digital 2.0. Shameful. Adding insult to injury, they consistently find the absolute worst voice actors to dub the English dialogue, and this title is no exception. Maybe the actors were instructed to be as flat and lifeless as their characters.

Typically, an anniversary release of a film on Blu-ray implies that the film in question has the notoriety required to merit the milestone in the first place. Second, it's also assumed that the commemorative edition would be loaded with extras, but there are no extras whatsoever on this edition.

The creative minds behind *Ghost in the Shell* have merged mankind's evolution with its frenetic love affair with technology and made a chilling prognostication with this parable. Impressive visuals aside, this film is a joyless experience to watch. Maybe that's the intent. Good or evil, there's no humanity on either side. Pray it never comes to pass. **Corey Gunnestad**


BLU-RAY
STUDIO: Anchor Bay, 1995

ASPECT RATIO: 1.78:1

AUDIO FORMAT: DTS-HD Master Audio 5.1

LENGTH: 82 mins.

MPAA RATING: Unrated

DIRECTOR: Mamoru Oshii

STARRING: Mimi Woods, Richard Epcar, Crispin Freeman

PICTURE
SOUND
EXTRAS




MILLION DOLLAR ARM

HOW MUCH FOR A LEG?

Disney



Million Dollar Arm thankfully falls into that welcome category of sports movies that don't demand a love of sports in order to click with audiences. Based on a true story, it introduces us to J.B. Bernstein (Jon Hamm), partner at a small sports agency in desperate need of a break, lest their doors close forever. He decides to think globally and soon cooks up The Big Idea: to hold a well-publicized contest in India with the intention of converting a cricket bowler into a baseball pitcher, with a seven-figure prize at stake. J.B. will secure some undiscovered talent, bring his winners home, and teach them the good old American pastime. Simple, right?

The smooth-talking cynic travels across the globe from his base in Los Angeles and is met with the requisite culture shock. Eventually, he plucks a pair of beyond-naïve young athletes from their broods and returns with these two potential players, Dinesh and Rinku, plus one aspiring coach in tow, but that's where his real journey begins. Their shared struggle to meet the terms of the underlying business arrangement and still do right by all involved is fraught with drama—and no shortage of colorful characters. No one does surrogate families like screenwriter Tom McCarthy (*Up, Win Win, The Visitor*), who zeroes in on the heart of this family-friendly tale, its only sin a possible surplus of sentimentality.

The 2.4:1 video master remains something of a conundrum. The routine close-ups of Hamm ably reveal his scruff and pores, both intimately familiar to *Mad Men* viewers. But while the location cinematography of India serves up a big Crayola box of lovely colors, it all seems to be shot a bit soft, with long cityscapes lacking the precise delineation I've seen in other international films.

Similarly, when the music is mixed loud for dramatic effect, it carries substantial bass and does a fine job filling the room. And yet even in big crowd scenes, the surround channels in this tame DTS-HD Master Audio 5.1 soundtrack seem disappointingly restrained, so much so that I walked over and pressed my ear to the speakers to ensure that they were active at all. Dialogue is always clear, although it's multilingual, so much of the movie is subtitled.

There are a handful of bonus features, all rather short. There's an alternate ending, three cut scenes, plus a Digital Copy.

● Chris Chiarella



BLU-RAY

STUDIO: Disney, 2014
ASPECT RATIO: 2.40:1
AUDIO FORMAT: DTS-HD Master Audio 5.1
LENGTH: 124 mins.
MPAA RATING: PG
DIRECTOR: Craig Gillespie
STARRING: Jon Hamm, Pitobash, Suraj Sharma



LA DOLCE VITA

FELLINI'S WOOLLY CARAVAN OF NIGHTMARES

Criterion Collection



La Dolce Vita was Federico Fellini's breakout hit: a critical and commercial sensation, even in America, where foreign films till then were strictly art house fare. It's the winding tale of a litterateur-turned-gossip columnist wandering the streets, bars, and parties of newly decadent modern Rome, seeking love, meaning, and value but finally realizing their futility and wallowing in the miasma. The film coined archetypes of the era: a character named Paparazzo, a tabloid photographer who chases after sensational shots, spawned the word *paparazzi*; another, Steiner, a refined man of culture who commits a gruesome crime, became the prototype of the modern ineffectual intellectual.

The Criterion Collection's 1080p transfer is gorgeous, a meticulous 4K restoration, struck from the original black-and-white camera negative, except for a few scenes where it was too damaged, in which case the finest dupe or print was sought out to substitute. The soundtrack is crisp, featuring Nina Rota's most accomplished, evocative score. The extras are also a treat, mainly interviews with Fellini and other Italian filmmakers or scholars discussing the film's making and significance.

And yet, to me, *La Dolce Vita* is a crashing bore. Its themes may have been riveting in 1960. As Gary Giddins writes in his almost-persuasive booklet-essay, "After a dozen years of neo-realism, which catalogued the privations of postwar Italy, Fellini reinvented Rome as a caravan of dreams or nightmares, debauched, pathetic, yet perfidiously appealing, a tourist attraction, and also a recruitment station for the inferno." I would disagree only, but crucially, with "perfidiously appealing." To me,

every character in the film is shallow, self-destructive, and not at all appealing. The iconic scene—Anita Ekberg as a vivacious Swedish-American movie star, prancing through Trevi Fountain while almost falling out of her extremely low-cut dress—was as sexy as cinema got back then, but it comes off as a bit campy now. The wallowing-in-decadence theme has often been trotted out in the half-century since, and Fellini's take doesn't hold up well, especially against Paolo Sorrentino's 2013 *The Great Beauty* (also on a Criterion Blu-ray), which takes off from *La Dolce Vita*'s premises but spins a humanistic story, with finely wrought characters who prompt sympathy, contempt, pity, or ambivalence but never a yawn. ● Fred Kaplan



BLU-RAY

STUDIO: Criterion Collection, 1960
ASPECT RATIO: 2.35:1
AUDIO FORMAT: Uncompressed mono (Italian with English subtitles)
LENGTH: 174 mins.
MPAA RATING: Unrated
DIRECTOR: Federico Fellini
STARRING: Marcello Mastroianni, Anita Ekberg, Anouk Aimee



ADORE—SUPER DELUXE EDITION THE SMASHING PUMPKINS



Yelena Yemchuck

The Smashing Pumpkins could seemingly do no wrong as the calendar turned to 1998. The Chicago quartet was still riding the victorious vapor trail emanating from the multiplatinum success of 1995's *Mellon Collie and the Infinite Sadness*, the ultimate mid-decade talisman of the alt-rock era. The double-disc *Mellon Collie* was the defining testimonial for how The Pumpkins' singularly determined bandleader Billy Corgan could steer his group to veer on a dime from all-out iconoclast bombast (the persistently punishing "Bullet With Butterfly Wings") to patented introspective push/pull (the happy/sad noise mesh in "Today") to genre-twisting with hooks to spare (the bouncy sing-along of "1979").

And then it all came crashing down.

When The Pumpkins dropped *Mellon Collie's* eagerly anticipated follow-up, *Adore*, in June 1998, many listeners flat-out didn't know what to make of it. Perhaps they were put off by Corgan's deliberate de-emphasis of those patented loud 'n' layered guitars for more acoustic-driven tracks and the clear absence of powerhouse drummer Jimmy Chamberlin, feeling the more electronic thrust of lead single "Ava Adore" was the signpost for a new direction they didn't want to share with the band. And that's a damn shame, because *Adore* is the most adventurously risky album in the Pumpkins canon, and ultimately the most rewarding. Thanks to the beyond-generous Super Deluxe Edition that contains (yes) 107 tracks spread across seven discs, revisionist historians and curious newbies alike can absorb what others got out of the album upon its initial release: an even deeper look at the inner and outer workings of an artist unafraid of exploring new ground when he could have effortlessly continued to mine the same sonic-assault shaft.

The revised table is set in the album's opening track on Disc 1, "To Sheila," and it's a telling blueprint of how Corgan came to embrace the inherent emotional qualities in his vocals by putting them up front in the mix, rather than masking them underneath layers of effects or burying them in deliberately busy arrangements. His naked lead blends beautifully with the three-part harmony on the repeated "You make me feel as strong as I feel" chorus. A banjo line in the song's back half—which Corgan initially told engineer Bjorn Thorsrud to erase from the track—adds additional weight, lightly buttressed by piano counters and boxy percussion. And there's absolutely no denying the assaultive power

of "For Martha," the 8-minute tribute to Corgan's mother that's a clinic

for how to go from a whisper to a scream and back again. Cut live in the studio with Matt Cameron (Soundgarden, Pearl Jam) on drums, "Martha" starts with a wistful, melody-establishing piano intro, and then an overdriven fuzz-guitar blast takes over exactly halfway into the track for two intense minutes, navigating the electrified elegy toward a brief piano callback before a heartfelt full coda brings it all home.

Corgan decided to go back to mono for Disc 2—well, it's actually a higher-res fold-down of the *Adore* stereo mix done by longtime Pumpkins production foil Flood, which makes for a much more starkly interesting album reading. "The Tale of Dusty and Pistol Pete," while quite hypnotically pleasant in stereo, is much more *present* in its mono form, bringing Corgan's vocal to the fore much more than the two-channel offering.

The next three discs find Corgan working through his demons/emotions via demos, alternate takes, and different working mixes. It's fascinating to hear him in the actual midst

of figuring out the right vocal emphasis and word placements while accompanying himself on acoustic guitar. On Disc 3, subtitled *In a State of Passage*, "Sparrow (Sadlands Demo)" finds Corgan to be quite the delicate bird on the acoustic wire, while "Chewing Gum (CRC Demo)" works through an odd meter and a one-beat-behind doubled vocal. Disc 4, subtitled *Chalices, Palaces, and Deep Pools*, mixes ethereal in-progress material with beats and samples that would do Butch Vig and Garbage proud. "Cash Car Star" and "Pug," both tagged as being "reimagined" by Matt Walker of the band Filter, steamroll over the established Pumpkins pavement. Disc 5, subtitled *Malice, Callous, and Fools*, ends with a fascinating, slower-tempoed doom-goth take on "The Beginning Is the End Is the Beginning," better known by the super-heroically energetic version that served as the theme to 1997's George Clooney-led near-Bat-debacle, *Batman & Robin*. This "End" benefits from a greasy mix replete with surface noise and instrumental burble.

In essence, it's The Cure blending with Nine Inch Nails in a slow-mo Cuisinart.

Then we get the power of The Pumpkins' live prowess. Disc 6, subtitled *Kiss Alive Too*, and Disc 7, a DVD recorded at the Fox Theatre in Atlanta on August 4, 1998, both showcase where the band's seek and destroy mentality intersects with their more down-home *Basement Tapes* vibe. "X.Y.U. Medley" and a rehearsal of "Transmission" will melt your mind in all the right ways, while the stripped-back beauty of "Daphne Descends" and "Shame" will then cleanse your battered palate.

No question, this Super Deluxe Edition is not for the time-challenged or faint of ear. But no matter what you may or may not have thought of it before, you will be enamored with the reclaimed aural legacy of the acoustic-electronic hybrid wonder that is *Adore*. ● Mike Mettler



CD & DVD

LABEL: Virgin/UME

AUDIO FORMATS: 44.1-kHz/16-bit PCM Stereo (Discs 1, 3-6 & download card); 44.1-kHz/24-bit Mono (Disc 2); 48-kHz/24-bit (DVD)

NUMBER OF TRACKS: 90 on 6 CDs, 17 on 1 DVD

LENGTH: 6:49:08 (6 CDs), 1:55:12 (1 DVD)

PRODUCERS: Billy Corgan, Flood, Brad Wood (original album and other studio material), Bjorn Thorsrud (live material)

ENGINEERS: Billy Corgan, Brad Wood, Flood, Howard C. Willing, Sylvia Massey, Jeff Moleski, Bjorn Thorsrud

PERFORMANCE ★★★★★
SOUND ★★★★★



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LG 65EC9700 65-Inch Ultra HD OLED TV

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LG made headlines this past summer with the announcement that its 55-inch OLED TV would sell for \$3,500. Not cheap, but a whopping 75 percent less than what its predecessor sold for. Then along came the 65EC9700, a TV capable of delivering lush OLED images in 4K resolution that sells for \$10,000. LG made headlines again—this time for making television's holy grail a reality. We spoke with Tim Alessi, director of new product development, for the story behind this inspiring 65-inch hybrid.

S&V: The press release announcing the 65EC9700 calls 4K OLED a “true game-changer.” Can you elaborate?

TA: The 65EC9700, the first of its kind to ever hit U.S. retail, is basically the holy grail of TVs because it combines today's two most important picture technologies—Ultra HD and OLED—for the best picture available. Ultra HD offers a picture comprised of more than 8 million pixels, rather than the 2 million in traditional Full HD TVs. Perhaps even more exciting, OLED can produce an infinite contrast ratio and more accurate colors as well as vastly superior viewing angles.

S&V: Tell us about the significance of LG's WRGB OLED technology. How does it differ from other approaches?

TA: A traditional TV's pixels are configured with a red, green, and blue subpixel structure. With WRGB, we've added a white subpixel. The results are improved color accuracy and an expanded available color range.

S&V: What other technical features set this TV apart?

TA: Just as with all our Ultra HD sets, our Ultra HD 4K OLED TVs incorporate new technology standards—such as the latest HDMI interface and H.265 decoding—capable of handling Ultra HD programming, whether it's streamed over the Internet or playing from a USB or HDMI source. These new sets include LG's Tru-4K Engine Pro, which uses a dual-chip, six-step process to upscale HD content into 4K, providing a stunning viewing experience for legacy content as well.

S&V: Which user features set the 65EC9700 apart from other flagship TVs?

TA: The TVs use LG's Smart TV+ webOS, which provides an intuitive interface that offers lightning-quick transitions between broadcast TV, streaming services, and external devices. A feature I particularly like is the webOS Smart+ TV menu, which can be subtly overlaid on the screen so viewers never have to leave what they are watching while they search for the next program to enjoy.

S&V: What's special about the 65EC9700's design?

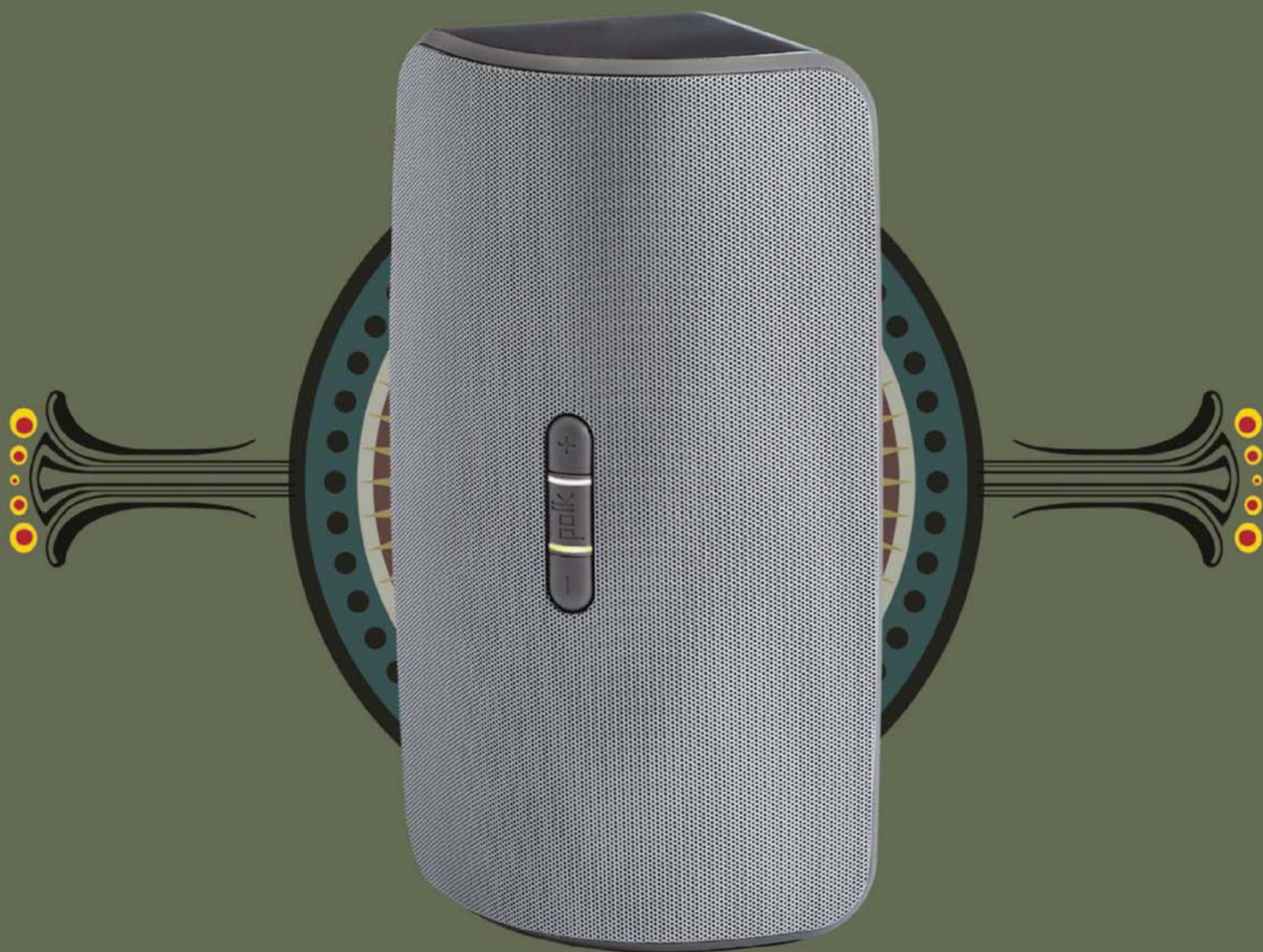
TA: Despite all of the technology packed into it, the EC9700 is still only as thick as a few credit cards at its thinnest point and weighs about 50 pounds (without the stand). It also features a subtle curve that gives it more aesthetic appeal and provides viewers an immersive experience.—*Bob Ankosko*

An extended version of this interview appears on soundandvision.com.



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